

**Course:** SPPA 332 Audiological Procedures, 3 Semester Credits  
Spring 2015  
M-W-F 8:30 A.M. BH 181

**Instructor:** Darah Regal, AuD., CCC-A  
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**Required Textbooks:** Martin, F. N. Introduction to Audiology, 11th edition (2011).  
Englewood Cliffs, N.J., Prentice Hall, Inc.

Martin, F. N. Exercises in Audiometry (1998). Needham Heights,  
MA, Allyn & Bacon.

**For ISBN and price information, please see the listing at the  
bookstore [www.andrews.edu/bookstore](http://www.andrews.edu/bookstore).**

**Course Description:** Study of auditory testing with an overview of differential diagnostic testing in the identification of auditory pathologies. Testing procedures include clinical masking and acoustic immittance measures. Special testing techniques for infants and the pseudohypacusis will be presented.

**Course Objectives:** By the end of this course, you will be able to:

1. Use masking appropriately for obtaining ear specific thresholds for air and bone conduction and speech.
2. Administer and interpret the immittance test battery of tympanometry, reflexes and reflex decay.
3. Explain the development of auditory behavior as it impacts the testing of infants and young children.
4. Identify characteristics in the test battery that suggest malingering, and administer at least one test to ascertain true thresholds.
5. Describe auditory response characteristics associated with cochlear, retrocochlear lesions and central auditory processing deficits. Identify tests useful in diagnosing these characteristics.

**Course Requirements:**

1. **Class Attendance:** Record will be taken during the first five minutes of class. Promptness is vitally important to the continuity of class discussion. If you find you will be unable to attend class, please notify the teacher **prior to the**

**class** to make arrangements for making up the work and obtaining handout material. **Three absences will be allowed.** Three late entrances will be equivalent to one absence. More than 3 absences will negatively affect your final grade.

2. **Quizzes:** To be announced, usually weekly.
3. **Examinations:** There will be three examinations throughout the semester worth 75-100 points each. The final examination will be comprehensive worth 100-150 points. All examinations will remain in the possession of the instructor. After they have been graded they will be distributed for your review. They must be returned to the instructor to be recorded.

**Quizzes missed due to an excused absence will be prorated or made up within 2 days after the absence. Exams missed due to an excused absence may be made up within three days after the absence. Exams or quizzes missed due to illness require a note from a physician for the date of the exam or quiz.**

4. **Practical Assignments:** The assignments are due at the beginning of the class period on the day specified in the course outline. **For each test, interpret the test results in the comments sections of the audiogram.**

Assignment 1 Masking Lab -Pure tone air and bone (all octaves and necessary inter-octaves between 250-8000 Hz), SRT and discrimination on 4 people (at least two clients can not be SPLAD majors or minors) with an earplug firmly placed in **one** ear or one earphone placed on the head rather than the ear. Interpret results in the comments section of the audiogram. 10 points each (total 40 points)

Assignment 2 On two class members and two NON-SPLAD majors or minors do Acoustic immittance testing: tympanograms, ipsilateral and contralateral reflexes at 500, 1000, 2000, and 4000. Contralateral reflex decay at 1000Hz - both ears. Transfer tympanograms, static compliance, ear canal volumes and reflex information to the audiogram. Interpret all measures, including ear canal volumes and static compliance according to the norms, at the bottom of the audiogram. 10 points each (total 40 points)

Assignment 3 On two NON-SPLAD majors or minors, conduct a hearing test. Instruct you client to fake a significant hearing loss in one ear. Complete the following tests: Pure tone air and bone (all octaves and any necessary inter-octaves between 250-8000 Hz. SRT, Speech discrimination ability, and Stenger pure tone test at 1000 and 2000 Hz, and at least one other clever trick to prove malingering. Fill out an audiogram and write appropriate comments at the bottom of the audiogram.

Assignment 4

- A. You will be assigned two hearing disorders to research.
- B. Fill out audiogram - pure tone air, bone and speech - interpret results - see syllabus for when this part is due

- C. Complete an audiogram, filling out all appropriate test results, immittance, reflex, tone decay.
- D. You need to turn in a written report of the possible audiological findings for each audiological test. Explain why the results are appropriate for the disorder. (**For example**, pure tone results indicated a conductive hearing loss in the left ear. Otitis media results in a collection of fluid in the middle ear space. The additional fluid causes more mass and friction making it more difficult for the tympanic membrane and ossicles to move. It is a conductive hearing loss because it is only affecting the middle ear.) An explanation of the results is required for each test given. If a test is not appropriate for this disorder explain why this test would not be given and why.
- E. Interpret your results on the bottom of the audiogram.
- F. Write a report to a physician explaining your results (Total 70 pts)

Assignment 5 Audiogram quiz. There will be an audiogram quiz on Moodle. To receive points for this quiz, you must have 100% accuracy. The quiz will be worth 20 points and can be taken multiple times. It is required that this quiz be taken independently and you need to sign a statement that you took the quiz without notes, books or help from any person.

Assignment 6 Audiometer proficiency. You will need to schedule an appointment with the audiology teacher's assistant to demonstrate your ability to correctly operate the audiometer for pure tone air, bone, Speech Recognition Threshold (SRT) and Speech Recognition Score. If the score is below 80%, you will need to schedule appointment with the teacher assistant to improve

5. Other assignments as deemed necessary during the semester.

## 6. LATE POLICY

Assignments may only be turned in during class time. Assignments will no longer be accepted in my in box, handed to me outside of class or placed in my office. A new system has been developed for receiving assignments. There will be a folder and a turn in sheet to sign when the assignment is placed in the folder during class. If you do not have your assignment during class it may be turned in during a subsequent class period for the following discounts: 1. One class period late during the same week 10%, 2. One class period late over a weekend 15%, 3. Two class periods late 25%, 4. Three class periods late 50%, NO assignment accepted four class periods after the due date. If you are not going to be in class, it is your responsibility to have someone in the class submit your assignment and sign their name. No assignments will be returned to the class until after the fourth class period or all assignments for the class have been received.

## 7. Grading:

Grades will be calculated on a percentage basis as follows:

- 94.0 - 100% A
- 90.0 - 93.99% A-

87.5 - 89.99%	B+
83.5 - 87.49%	B
80.0 - 83.49%	B-
77.7 - 79.99%	C+
73.5 - 77.99%	C
70.0 - 73.49%	C-
65.0 - 69.99%	D
Below 65%	F

8. Academic dishonesty including plagiarism, copying other students work, stealing quizzes or accepting stolen quizzes or exams is a serious offense. Possible consequences are a warning, reduced or failing grade, suspension or dismissal from the class, expulsion from the university, and/or degree cancellation.

9. Andrews University is committed to the education of all students on campus. If you qualify for accommodation under the American Disabilities Act, please see contact Student Success in Nethery Hall 100 ([disabilities@andrews.edu](mailto:disabilities@andrews.edu) or 269-471-6096) as soon as possible so that accommodations can be arranged.

10. CELL PHONE and EATING in class. In an effort to make the most valuable use of your time and mine, I am requesting that cell phones be turned OFF during class and that eating during class be discontinued. Cell phones ringing and/or vibrating are a distraction. If there is an emergency and you need to be reached by cell phone during class, you must discuss the emergency with me prior to class. Please plan to eat prior to class so that you can easily participate in class discussion and take notes.

11.E-Mail - You are responsible for checking you Andrews e-mail account for messages from class. Please check your e-mail on a regular basis for important messages. Remember to help your classmates as well, especially regarding class changes or assignment information, please contact your classmates to make sure they are aware of important information. If you choose to send an e-mail to me please send them to [dregal@andrews.edu](mailto:dregal@andrews.edu). Please understand that I will be responding to e-mail during normal business hours (8-5 M-Th and 8-12 on Friday). You should receive a response within 48 hours. If you have not received a response, please re-send the e-mail.

12.Andrews University takes the safety of its student seriously. Signs identifying emergency protocol are posted throughout buildings. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting that specific location. It is important that you follow these instructions and stay with your instructor during any evacuation or sheltering emergency.

Tentative Class Schedule

Month	Date	Topic	Assignment	Martin Reading
Jan	5	Intro. – Review of audiogram – need for masking		6
	7	What is masking?		6
	9	When to mask	Quiz	6
Jan	12	When to mask		6
	14	Masking techniques for air conduction		6
	16	Masking techniques for air conduction	Quiz ASSIGNMENT 5 due.	6
Jan	19	<b>NO CLASS</b>	Week of spiritual emphasis (WSE)	
	21 Class starts at 8:10	Masking techniques for bone conduction	WSE	
	23 Class starts at 8:10	Masking for speech	WSE	6
Jan	26	Masking review	ASSIGNMENT 6 due	6
	28	Acoustic Immittance – basic principles		6
	30	<b>EXAM 1</b>		
Feb	2	Tympanogram		7
	4	Tympanogram.		7
	6	Acoustic reflex	Quiz / Prac Assignment 4B due	7
Feb	9	Acoustic reflex		7
	11	Acoustic reflex		7
	13	Acoustic reflex decay	Quiz	7

Feb	16	NO CLASS		
	18	Tone Decay	Prac. Assignment 4C due	7
	20	Cochlear Pathology	Quiz	
Feb	23	Retro-Cochlear pathology		7
	25	Pseudohypacusis		13
	27	Pseudohypacusis	Quiz / Practical assign. 1 due	13
March	2	Pseudohypacusis		13
	4	Development of auditory behavior		8
	6	EXAM 2		
March	9	Testing infants under age 3 months		8
	11	Testing infants 6 months to age 2		8
	13	NO Class - Spring Break		
March	16	NO Class - Spring Break		
	18	NO Class - Spring Break		
	20	NO Class - Spring Break		
March	23	Testing Young children		8
	25	In class assignment	Practical Assignment 2 due	8
	27	ENG	Quiz	7
March	30	Testing children ages 2-5		8

April	1	Testing children ages 2-5		7
	3	OAE	Quiz	7
April	6	ABR		7
	8	ABR		7
	10	<b>EXAMINATION 3</b>		
April	13	Central auditory processing(CAP)		12
	15	Tests for CAP	Pract. Assign. 3 due	12
	17	Tests for CAP	Quiz	
April	20	Tests for CAP		12
	22	Review	Prac.assign. 4 due	
	24	<b>NO CLASS - EXAM PREPARATION</b>		
Wednesday of exam week from 7:30- 9:30 am.		<b>FINAL EXAM</b>	<b>COMPREHENSIVE</b>	Everything

## Masking Lab

Neatness	1	1	1	1	____/4
Used proper symbols/air	1	1	1	1	____/4
Used proper symbols/bone	1	1	1	1	____/4
Speech - SRT – masking (Appropriate boxes filled in)	1	1	1	1	____/4
Speech - Discrimination – masking (Appropriate boxes filled in)	1	1	1	1	____/4
Used proper amount of masking (Pure tone and speech)	2	2	2	2	____/8
Details	1	1	1	1	____/4
Comments	2	2	2	2	____/8
				Total	____/40

Name \_\_\_\_\_

Date \_\_\_\_\_



# Immittance Lab

Neatness	1	1	1	1	____/4
Type and ECV correct box and accurate	1	1	1	1	____/4
Peak – recorded, drawn correctly	2	2	2	2	____/8
Volume – recorded, drawn correctly	2	2	2	2	____/8
Acoustic Reflex Decay	1	1	1	1	____/4
Acoustic reflex	2	2	2	2	____/8
Details	1	1	1	1	____/4
Comments	2	2	2	2	____/8
				Total	____/40

Name \_\_\_\_\_

Date \_\_\_\_\_

# Malingering Lab

Neatness	1	1	____/2
Pure Tone Stenger	2	2	____/4
Symbols	2	2	____/4
Other methods used To determine malingering	2	2	____/4
Details	1	1	____/2
Comments	2	2	____/4
Include comments about All methods used to determine Malingering.			
		Total	____/20

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# Audiological Procedures Research

Disorder	<u>1</u>	<u>2</u>	
Audiogram	15	15	_____/30
pure tone (5)			
speech/immit (5)			
results (5)			
Letter to Physician	8	8	_____/16
Audiological Findings	8	8	_____/16
Pure tone (1)			
Immitance (1)			
Tymp/reflex. (1)			
Speech (1)			
Tone Decay (1)			
OAE (1)			
ENG (1)			
ABR (1)			
References/neatness	4	4	_____/8
Spelling, grammar			
		Total	_____/70

Name \_\_\_\_\_

Date \_\_\_\_\_