SLHS 483/583R Principles of Audiology
SLHS 205, Tuesdays & Thursdays, 3:30 to 4:45 PM

Description of Course
Principles of audiology is designed to provide students with an overview of the profession of audiology as well as acoustics, auditory anatomy and neuroanatomy in the context of the evaluation and remediation process.

Course Prerequisites or Co-requisites
Students must have successfully completed the following courses to enroll in SLHS 483/583:
- SLHS 2xx; Acoustics
- SLHS 380; Hearing Science

Instructor and Contact Information
David S. Velenovsky, Ph.D., CCC-A
Speech & Hearing Sciences, Room 524
Telephone: 626 - 9507
Email: dsv@email.arizona.edu
Office hours: by appointment

Teaching assistants
- Sarah Morris sarahmackenzie@email.arizona.edu
- Bryan Wong BRYANWONG@email.arizona.edu
TA office hours by appointment

Course Format and Teaching Methods
The course is lecture based. Students are encouraged to participate in classroom discussions. Discussions regarding presented material facilitate learning and conversations are more interesting than "straight lecturing". Power-point presentations that are used in lecture will be made available on D2L (http://www.d2l.arizona.edu/). Readings outside of the text will also be posted on D2L.
Notification: if the instructor believes necessary, students will be warned that some course content may be deemed offensive by some students.

Course Objectives and Expected Learning Outcomes
As a result of attending lectures, completing the readings, and any additional assignments, the student will be able to:

1. Describe the profession of audiology;
2. State the principles of the physics of sound as they pertain to audiological evaluation;
3. Describe the anatomy and physiology of the human auditory system;
4. Use an otoscope and report normal external ear and tympanic membrane anatomical findings;
5. List the primary etiologies of hearing loss in children and adults;
6. Explain the impact of hearing impairment for infants, children and adults;
7. Explain the general principles of audiologic evaluation;
8. Interpret the pure-tone audiogram;
9. Perform a pure-tone threshold test on a normally-hearing adult and report the findings;
10. Integrate acoustic admittance and speech audiometry results with the pure-tone audiogram;
11. List the principle components of hearing technologies (hearing aids, cochlear implants and assistive listening devices) and define their function;
12. Recognize case histories in which a hearing technology may be recommended;
13. Define the principles of audiologic rehabilitation for infants, children and adults;
14. Recognize case histories in which audiologic rehabilitation may be recommended.

Absence and Class Participation Policy

Students are expected to attend all classes and you are required to attend all labs. All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean designee) will be honored. Students who miss class due to illness or emergency are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences.

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at http://catalog.arizona.edu/2015-16/policies/classatten.htm

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: http://policy.arizona.edu/human-resources/religious-accommodation-policy.

Absences preapproved by the UA Dean of Students (or dean’s designee) will be honored. See http://uhap.web.arizona.edu/policy/appointed-personnel/7.04.02

Required Texts or Readings

The required text for this course is:


Availability: The text is available in the UA bookstore. It is also available from the library as a download at: http://sabio.library.arizona.edu/record=b7767241~S9

Assignments and Examinations: Schedule/Due Dates

There will be 3 exams given over the semester and a cumulative final exam. Those enrolled in SLHS 483 must complete one additional assignment outside of class, those enrolled in SLHS 583 must complete two. These assignments are required and are part of your cumulative grade. You cannot complete multiple assignments for extra credit. Descriptions and requirements for the assignments are listed later in this syllabus. Examination dates are shown on the lecture schedule.

Final Examination or Project

The final exam for this course will be given on Monday, December 10th, from 3:30 to 5:30 PM in SLHS 205


Grading Scale and Policies

Tests will be based on material covered in specific sections of the course. Material will also include information from the text or assigned readings (if specifically referred to). The dates of the tests are on the course schedule and will cover the material up to the date of the test. The format for the test usually takes the form of multiple choice, short answer, fill-in-the-blanks, or true/false questions. The instructor reserves the right to re-schedule a test but will give sufficient notice if this occurs. If it is necessary to re-schedule a test, it will always be to a later, rather than earlier date. If you know that you will be absent from class on the day of a scheduled test, you must notify the instructor so that alternative arrangements can be made for taking the
test. Point distributions for each test may vary from those listed below and grading will be adjusted accordingly.

**SLHS 483 points:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>3 Tests (50 pts each)</td>
<td>150</td>
</tr>
<tr>
<td>1 Observation</td>
<td>10</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
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<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>260 points</strong></td>
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</table>

**SLHS 583 points:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Tests (50 pts each)</td>
<td>150</td>
</tr>
<tr>
<td>2 Observations</td>
<td>20</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>270 points</strong></td>
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</table>

Grades will be based upon percentage of the cumulative score (i.e., 90-100% = A; 80-89% = B, etc.)

**Extra Credit:** There will be 10 “pop” quizzes randomly given throughout the course. The quizzes will be worth 1 point each for a total of 10 points. Quizzes are not part of the final totals, so they will not hurt grades, but can be helpful to those on the borderline. Additionally, there will be extra credit questions on exams. *Therefore, there are plenty of chances for you to earn extra points and as such, an 89 is an 89, or a “B”, 79 is a “C”, etc. Therefore don’t try to lobby me for a higher grade at the end of the semester.*

**Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies,** which are available at [http://catalog.arizona.edu/2015-16/policies/grade.htm#I](http://catalog.arizona.edu/2015-16/policies/grade.htm#I) and [http://catalog.arizona.edu/2015-16/policies/grade.htm#W](http://catalog.arizona.edu/2015-16/policies/grade.htm#W), respectively.

**Dispute of Grade Policy**

With the exception of the final exam, **students have 7 days from the posting of exam scores on D2L to dispute a grade.** For the final exam, **students will have 2 days from the posting of exam scores on D2L to dispute a grade before the final grade is recorded.**

**Honors Credit**

Students wishing to contract this course for Honors Credit should e-mail me to set up an appointment to discuss the terms of the contract and to sign the Honors Course Contract Request Form. The form is available at [http://www.honors.arizona.edu/documents/students/ContractRequestFrom.pdf](http://www.honors.arizona.edu/documents/students/ContractRequestFrom.pdf)

**Classroom Behavior Policy**

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave and may be reported to the Dean of Students.
### Threatening Behavior Policy
The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See [http://policy.arizona.edu/education-and-](http://policy.arizona.edu/education-and-)

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### Scheduled Topics/Activities

<table>
<thead>
<tr>
<th>Week</th>
<th>Month</th>
<th>Day</th>
<th>Date</th>
<th>Subject</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug</td>
<td>Tues</td>
<td>21</td>
<td>Introduction to course and Profession + Sound</td>
<td>Chapter 1</td>
</tr>
<tr>
<td></td>
<td>Aug</td>
<td>Thurs</td>
<td>23</td>
<td>Anat &amp; Phys-overview: Outer Ear &amp; Middle Ear</td>
<td>Chapter 2</td>
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<tr>
<td>2</td>
<td>Aug</td>
<td>Tues</td>
<td>28</td>
<td>Anat &amp; Phys- overview, Inner Ear &amp; CNS</td>
<td>Chapter 2</td>
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<tr>
<td></td>
<td>Aug</td>
<td>Thurs</td>
<td>30</td>
<td></td>
<td>Chapter 2</td>
</tr>
<tr>
<td>3</td>
<td>Sept</td>
<td>Tues</td>
<td>4</td>
<td>Assessment overview, case HX/instrumentation</td>
<td>Chapter 4</td>
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<tr>
<td></td>
<td>Sept</td>
<td>Thurs</td>
<td>6</td>
<td></td>
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<tr>
<td>4</td>
<td>Sept</td>
<td>Tues</td>
<td>11</td>
<td><strong>Tues: EXAM 1</strong>: Sound + Anat &amp; Phys. Thurs: Lecture Pure tone testing AC &amp; BC</td>
<td>Chapter 5</td>
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<td></td>
<td>Sept</td>
<td>Thurs</td>
<td>13</td>
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<tr>
<td>5</td>
<td>Sept</td>
<td>Tues</td>
<td>18</td>
<td>Pure tone testing AC &amp; BC + masking &amp; Speech</td>
<td>Chapter 5</td>
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<tr>
<td></td>
<td>Sept</td>
<td>Thurs</td>
<td>20</td>
<td></td>
<td>Chapter 8, 9</td>
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<td>6</td>
<td>Sept</td>
<td>Tues</td>
<td>25</td>
<td>Speech &amp; Objective tests; Immittance, OAEs</td>
<td>Chapter 8, 7</td>
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<tr>
<td></td>
<td>Sept</td>
<td>Thurs</td>
<td>27</td>
<td></td>
<td>Chapter 8,7</td>
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<tr>
<td>7</td>
<td>Oct</td>
<td>Tues</td>
<td>2</td>
<td>Objective Tests; OAEs, AERs</td>
<td>Chapter 11</td>
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<td></td>
<td>Oct</td>
<td>Thurs</td>
<td>4</td>
<td></td>
<td>Chapter 11</td>
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<tr>
<td>8</td>
<td>Oct</td>
<td>Tues</td>
<td>9</td>
<td>Special tests; Children</td>
<td>Chapter 12</td>
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<td></td>
<td>Oct</td>
<td>Thurs</td>
<td>11</td>
<td></td>
<td>Chapter 12</td>
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<tr>
<td>9</td>
<td>Oct</td>
<td>Tues</td>
<td>16</td>
<td><strong>Tues: EXAM 2</strong>: Assessment of Aud System. Thurs: Lecture; Pathologies</td>
<td>Chapter 6</td>
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<td>Oct</td>
<td>Thurs</td>
<td>18</td>
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<td>10</td>
<td>Oct</td>
<td>Tues</td>
<td>23</td>
<td>Pathologies, Impact of Loss</td>
<td>Chapter 6, 17</td>
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<td></td>
<td>Oct</td>
<td>Thurs</td>
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<td>11</td>
<td>Oct</td>
<td>Tues</td>
<td>30</td>
<td>Hearing Aids, Cochlear Implants</td>
<td>Chapter 15, 16</td>
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<td></td>
<td>Nov</td>
<td>Thurs</td>
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<td>Chapter 15, 16</td>
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<tr>
<td>12</td>
<td>Nov</td>
<td>Tues</td>
<td>6</td>
<td>Cochlear Implants &amp; Assistive Devices</td>
<td>Chapter 15, 16</td>
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<td></td>
<td>Nov</td>
<td>Thurs</td>
<td>8</td>
<td></td>
<td>Chapter 15, 16</td>
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<tr>
<td>13</td>
<td>Nov</td>
<td>Tues</td>
<td>13</td>
<td><strong>Tues: EXAM 3</strong>: Pathologies/Technology. Thurs Lec; Impact of Loss: Adults</td>
<td>Chapter 15, 16</td>
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<td></td>
<td>Nov</td>
<td>Thurs</td>
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<td>14</td>
<td>Nov</td>
<td>Tues</td>
<td>20</td>
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<td>Chapter 15, 16</td>
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<tr>
<td></td>
<td>Nov</td>
<td>Thurs</td>
<td>22</td>
<td>Tues. Lec: Adult Rehab., Thurs-NO CLASS</td>
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<tr>
<td>15</td>
<td>Nov</td>
<td>Tues</td>
<td>27</td>
<td>Impact of Loss on Children, Habilitation of Children</td>
<td>To be posted</td>
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<td></td>
<td>Nov</td>
<td>Thurs</td>
<td>29</td>
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<tr>
<td>16</td>
<td>Dec</td>
<td>Tues</td>
<td>4</td>
<td>Ties: Review, NO Class Thurs</td>
<td>To be posted</td>
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<td></td>
<td>Dec</td>
<td>Thurs</td>
<td>6</td>
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<tr>
<td></td>
<td>Dec</td>
<td>Mon</td>
<td>10</td>
<td>FINAL EXAM 3:30 - 5:30, 100 pts</td>
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</tbody>
</table>
student-affairs/threatening-behavior-students.

Accessibility and Accommodations
Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit http://drc.arizona.edu.

If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Code of Academic Integrity
Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity.

The University Libraries have some excellent tips for avoiding plagiarism, available at http://www.library.arizona.edu/help/tutorials/plagiarism/index.html.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted under ANY circumstances. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-harassment Policy
The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Additional Resources for Students
UA Academic policies and procedures are available at http://catalog.arizona.edu/2015-16/policies/aaindex.html

Student Assistance and Advocacy information is available at http://deanofstudents.arizona.edu/student-assistance/students/student-assistance

Confidentiality of Student Records
http://www.registrar.arizona.edu/ferpa/default.htm

Subject to Change Statement
Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.
Guide for Additional Assignment: SLHS 483/583R (10 points each)

DUE NO LATER THAN Tuesday, December 4th, 2018!

You are required to complete an assignment (or 2 assignments if 583R) from the following options. THESE ARE NOT EXTRA CREDIT ASSIGNMENTS!

Guidelines for each option are provided:

1. Complete one observation of an audiological evaluation, hearing aid troubleshooting, audiologic rehabilitation, audiologic habilitation with adults or children.
2. Participate as a subject in an experiment conducted by SLHS Audiology faculty.

GUIDELINES FOR REPORTS OF OBSERVATIONS

YOU MUST COMPLETE HIPAA TRAINING BEFORE OBSERVING IN THE CLINIC. If you do not know about this training, then please consult the administrative assistant at the front desk in the SLHS departmental office, room 214

General Guidelines for Observation in the Hearing Clinic:

- Schedule all observations of audiological evaluation or hearing aid evaluation/troubleshooting in the clinic office, Room 110.
- You must follow the guidelines for setting up an observation - see Joan Leffler or Patricia Sanchez in the Hearing Clinic reception area.
- Dress appropriately (Remember, you are observing a professional appointment) and arrive 15 minutes before your scheduled observation.
- Reports must be typed on word processor and submitted by email.
- REMOVE ALL IDENTIFYING INFORMATION CONCERNING THE CLIENT FROM COPIES OF REPORTS, ETC.

Audiological Evaluation: The information that should be included in your observation report is:

1. Date of observation, and duration of evaluation.
2. Name of student clinician(s) and their supervisor.
3. Age and gender of the person being evaluated.
4. Why did this person seek a hearing evaluation, or why did this person’s health care provider recommend a hearing evaluation? You will learn this from listening to the case history interview.
5. What was your impression of the patient's hearing and communication ability based upon his or her responses to the case history interview?
6. List the evaluation procedures used (e.g., air and bone conduction pure tone threshold tests, speech tests, tympanometry and acoustic reflex tests).
7. Summarize the results of each of the tests used in the evaluation. You may need to copy this information from the audiometric record.
8. Were any problems encountered during the evaluation? What were they? How were these problems overcome?
9. What were the recommendations for the patient, based upon the results of the evaluation?
10. Did what you observe correspond with what you have learned through lecture and reading? Give two specific examples of correspondence or discrepancy.

For your write up, use the number format above, i.e., answer #1, then #2, etc. That way, you’ll have provided all information requested. If you can get a de-identified copy of the patient’s audiogram, do so and include this with your report.

Hearing aid evaluation/counseling/troubleshooting: The information that should be included in your observation report is:

1. Date and time of the observation, name of the clinician and supervisor
2. Summary of case history information including reason for the evaluation and possible etiology of the hearing problem.
3. Description of the interview process, if there was one. If not, provide a general description of the interactions between the clinician(s) and the client(s).
4. Description of the hearing aid evaluation, if there was one. What procedures were used? How did the client respond?
5. Recommendations of the audiologist and description of the counseling session following the evaluation.
6. Your impressions of the session.

As in the audiological evaluation write up, use the number format above to when writing your report.

Observation of individual audiologic rehabilitation (AR):

Appointments for individual AR with adults or children is indicated on the master schedule board on the 4th floor. The time, room and clinician will be indicated. If a lesson plan is not posted in the observation room, then talk with the clinician after the session. The information that should be included in your observation report is:

1. Date and time of the observation, name of the clinician & supervisor
2. Description of the client, including age, hearing loss, reason for therapy.
3. Description of the lesson plan and goals of the clinician.
4. Description of the responses of the client
5. Overall impression of the session

As in the audiological evaluation write up, use the number format above to guide you in organizing your report.

GUIDELINES FOR EXPERIMENT PARTICIPATION (MUST BE AN AUDITORY EXP)

For this assignment, you should choose an experiment you wish to participate in, sign up for the experiment or obtain permission from the faculty member to participate, whichever is appropriate. Qualifying experiments are restricted to those being conducted by SLHS faculty and must involve some aspect of hearing. The information that should be included in your report is:

1. Give a brief description of the experiment including the purpose/research question, hypothesis (if there is one).
2. Who is the principal investigator?
3. Who conducted the experiment on the day you participated?
4. What were you asked to do? (include instructions)
5. What equipment or materials were used?
6. What were the results on the day you participated (can you get a printout)?
7. What were your impressions of the experience?
8. Include a signed note from the experimenter verifying your participation (include date and time)

As in the audiological evaluation write up, use the number format above to when writing your report.

For all reports, correct grammar and spelling is important and will be factored into your grade!