Course description

This course will introduce you to scientific evidence for the perception of vowel and consonant sounds, development of speech perception abilities, and classical and modern theories of speech perception.

Course Website

- Lecture notes, book chapters, journal articles, and other reading materials will be made available on the D2L website or other websites. In addition, the D2L website may also be used for messages related to the course.

Course requirements

- Attendance: Students are expected to attend class. Anyone who is chronically absent may have their grade lowered or be dropped from the class.
- Reading assignments: All students are expected to read and study the course notes, and any other material provided by the instructor.
- Homework assignments: Homework will be assigned to coincide with many of the lectures. These assignments will be collected and are given 1 point if completed and a 1/2 point if more than half the assignment is completed. At the end of the semester one homework score will be dropped and the remaining homework scores will be normalized to 50 points, regardless of the number of assignments given. Late homework assignments will not be accepted (that’s why one is dropped!).
- Journal Article Summary: All students are required to complete a summary of one article on speech perception published in the Journal of the Acoustical Society of America. The summary will be due on April 28 and is worth 20 points. More details will be given in class about how to write the summary, but it will be graded on content, clarity of writing, punctuation, spelling, etc.
- Exams: There will be three exams given throughout the semester. The exams will be taken during either the first or last hour of a class period. Each exam will be worth 50 points. Exams may include information from the readings, notes, lectures, or any other material provided or assigned by the instructor for the topics covered.

The final exam is worth 80 points. Later in the semester an announcement will be made as to whether the final will be an in-class or take-home format. If in-class, the exam will be given on May 14 from 8:00-10:00 am. If take-home, the exam will be due at 12:00 pm (noon) on May 14.
Grades

Course grades will be based on the sum of the three exams, homework, article summary, and the final exam (maximum pts = 300):

- Three exams (50 points each) = 150 points
- Homework = 50 points
- Journal Article Summary = 20 points
- Final exam = 80 points

An accumulation of 90% of the maximum number of points will earn an “A”, 80% = “B”, and so forth.

Regrading policies: There is no regrading unless there is clearly an objective grading error.

Class Policies

1. Please turn off or silence all cell phones and pagers during class. If you must take a call for emergency purposes, please do so by placing your phone’s ringer on silent or vibrate and leave the room to answer your phone.

2. Incomplete Grade Policy: Incomplete grades will be given ONLY in special circumstances as outlined in the university’s policy. See: http://catalog.arizona.edu/2006-07/policies/grade.htm

3. Students with Disabilities: If you anticipate barriers related to the format or requirements of this course, please meet with the course instructors so that we can discuss ways to ensure your full participation in the course. If you determine that disability-related accommodations are necessary, please register with Disability Resources (621-3268; drc.arizona.edu) and notify us of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. Disability accommodations will not be provided to students not registered with the DRC. Accommodations must be planned well in advance. You must be registered with the DRC and talk to us within the first three weeks of the semester to make arrangements.

4. All students are expected to know and abide by the Code of Academic Integrity. The complete code can be found at http://catalog.arizona.edu/policies/974/acacode.htm. All credit will be forfeited for any academic work completed for this class that violates the code.

5. Statement of Copyrighted Materials: Students are advised that all lecture notes, lectures, study guides and other course materials disseminated by the instructor to the students, whether in class or online, are original materials and as such reflect intellectual property of the instructor or author of those works. All readings, study guides, lecture notes and handouts are intended for individual use by the student. Students may not distribute or reproduce these materials for commercial purposes without the express written consent of the instructor. Students who sell or distribute these materials for any use other than their own are in violation of the University’s Intellectual Property Policy (available at http://www.ott.arizona.edu/uploads/ip_policy.pdf). Violations of the instructors copyright may result in course sanctions and violate the Code of Academic Integrity.

6. There is NO EXTRA CREDIT offered in this course.

7. With the exception of grading policies, the information contained in this syllabus may be subject to change with reasonable advance notice as deemed appropriate by the course instructor.
**Tentative Course Schedule** *(This schedule may be modified at the instructor’s discretion.)*

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 15</td>
<td>intro, acoustics, spectra</td>
<td></td>
</tr>
<tr>
<td>January 20</td>
<td>spectrogram, source-filter</td>
<td>A1-A5</td>
</tr>
<tr>
<td>January 22</td>
<td>speech synthesis</td>
<td></td>
</tr>
<tr>
<td>January 27</td>
<td>vowels</td>
<td>A6-A12</td>
</tr>
<tr>
<td>January 29</td>
<td>vowels</td>
<td></td>
</tr>
<tr>
<td>February 3</td>
<td>vowels</td>
<td></td>
</tr>
<tr>
<td>February 5</td>
<td>vowels</td>
<td></td>
</tr>
<tr>
<td>February 10</td>
<td>consonants, categorical perception</td>
<td>A13</td>
</tr>
<tr>
<td>February 12</td>
<td><strong>Exam 1</strong>; nonspeech analogs, trading relations</td>
<td></td>
</tr>
<tr>
<td>February 17</td>
<td>motor theory: round 1</td>
<td></td>
</tr>
<tr>
<td>February 19</td>
<td>motor theory: round 1</td>
<td></td>
</tr>
<tr>
<td>February 24</td>
<td>motor theory: round 2</td>
<td></td>
</tr>
<tr>
<td>February 26</td>
<td>acoustic theory</td>
<td></td>
</tr>
<tr>
<td>March 3</td>
<td>acoustic theory</td>
<td></td>
</tr>
<tr>
<td>March 5</td>
<td>acoustic theory</td>
<td></td>
</tr>
<tr>
<td>March 10</td>
<td>acoustic theory</td>
<td></td>
</tr>
<tr>
<td>March 12</td>
<td><strong>Exam 2</strong>; acoustic theory</td>
<td></td>
</tr>
<tr>
<td>March 17</td>
<td>spring break</td>
<td></td>
</tr>
<tr>
<td>March 19</td>
<td>spring break</td>
<td></td>
</tr>
<tr>
<td>March 24</td>
<td>gesture/auditory theory</td>
<td></td>
</tr>
<tr>
<td>March 26</td>
<td>theory battles</td>
<td></td>
</tr>
<tr>
<td>March 31</td>
<td>H and H theory</td>
<td></td>
</tr>
<tr>
<td>April 2</td>
<td>speech perception by Trout</td>
<td></td>
</tr>
<tr>
<td>April 7</td>
<td>mirror mirror ...</td>
<td></td>
</tr>
<tr>
<td>April 9</td>
<td>sensorimotor integration</td>
<td></td>
</tr>
<tr>
<td>April 14</td>
<td><strong>Exam 3</strong>; modulation theories</td>
<td></td>
</tr>
<tr>
<td>April 16</td>
<td>modulation theories</td>
<td></td>
</tr>
<tr>
<td>April 21</td>
<td>modulation theories</td>
<td></td>
</tr>
<tr>
<td>April 23</td>
<td>word segmentation</td>
<td></td>
</tr>
<tr>
<td>April 28</td>
<td>word segmentation &amp; speech intelligibility</td>
<td></td>
</tr>
<tr>
<td>April 30</td>
<td>speech intelligibility</td>
<td></td>
</tr>
<tr>
<td>May 5</td>
<td>speech intelligibility</td>
<td></td>
</tr>
<tr>
<td><strong>May 14</strong></td>
<td><strong>Final Exam, 8:00 am</strong></td>
<td></td>
</tr>
</tbody>
</table>
Assigned Journal Articles

Speech analysis/synthesis


Vowels - static vs dynamic


Motorica


Theoretical path - Acoustic


Theoretical battle - gestural vs auditory


Theoretical path - modulation


