

University of Wisconsin-Whitewater
College of Education
Department of Communication Sciences and Disorders

Comdis 240 Hearing and Speech Science
4 credits, Spring 2011

INSTRUCTOR: Scott Bradley
OFFICE: Roseman 1016
PHONE: (262) 472-5202
E-MAIL: bradleys@uww.edu

CLASS TIME: MW 8:50 to 10:30 AM
CLASSROOM: Hyland 1311
OFFICE HRS: MW 1:00 to 3:00 PM
R 10:00 to 1:00 Please try to
make an appt if possible. Appt
signup sheet is on my door.

I. Course Description:

A study of the anatomy and physiology of the auditory system, physical acoustics, speech production, sound perception, and basic hearing and speech instrumentation.

Prereq: COMDIS 270 and COMDIS 278 or consent of instructor

UWW Undergraduate and Graduate Catalogs:

<http://www.uww.edu/registrar/catalogs.php>

II. Learning Outcomes for Students Linked to Professional Standards

ASHA Standards Website:

<http://www.asha.org/academic/accreditation/accredmanual/section3.htm>

Wisconsin Teaching Standards Website:

<http://www.dpi.state.wi.us/dpi/dlsis/tel/pi34.html#teacherstandards3402>

| A. Knowledge/Content | Standards | |
|--|-----------|-----------|
| Students will know/understand: | ASHA | WTS |
| 1. basic properties of sound and how it is measured and analyzed | III C.4. | 1-1.a.c.e |
| 2. how speech is produced | III C.4. | 1-1.a.c.e |
| 2. the anatomy and physiology of the auditory and respiratory system | III C.4. | 1-1.a.c.e |
| 3. basics of psychoacoustics and auditory perception | III C.4. | 1-1.a.c.e |
| 4. how speech is perceived | III C.4. | 1-1.a.c.e |
| 5. basics of clinical and research instrumentation | III C.4. | 1-1.a.c.e |
| B. Skills | | |
| Students will be able to: | | |
| 1. measure and analyze sound using a sound level meter | N/A | N/A |
| 2. assess hearing thresholds using several psychophysical methods | N/A | N/A |
| 3. use basic voice instrumentation needed to analyze speech | N/A | N/A |

III. Course Format

Material for students will be delivered through classroom lectures, web based material, readings, computer-based multimedia, and podcasts. Students are expected to read material and complete assignments prior to class to be appropriately prepared. Students should study a minimum of two hours out of class for every hour in class (not just the night before exams). Material from any of these venues may be on the exams.

Learning Experiences

Each student is responsible for completion of the following learning experiences by their respective due dates (see course outline). Specific instructions may be found on d2L.

A. Lab 1: Sound Analysis

Group lab will analyze the properties of sound using a sound level meter.

B. Lab 2: Speech Production

Group lab will analyze fundamental frequency using the Visipitch and vowel spectrograms using the spectrograph.

C. Lab 3: Psychoacoustic Measurement

Group lab will measure hearing thresholds using classical psychophysical measurement methods.

III. EVALUATION OF LEARNING AND GRADING

Final Grades will be determined using the following Scale:

| Undergrads | | | | | |
|------------|---------|----|--------|----|--------|
| A | 92-100% | B- | 80-81% | D+ | 68-69% |
| A- | 90-91% | C+ | 78-79% | D | 62-67% |
| B+ | 88-89% | C | 72-77% | D- | 60-61% |
| B | 82-87% | C- | 70-71% | F | <60% |
| Grads | | | | | |
| A | 92-100% | BC | 78-81% | F | <60% |
| AB | 88-91% | C | 70-77% | | |
| B | 82-87% | D | 60-69% | | |

| | |
|----------------------------|--|
| 5 Exams – equally weighted | 80% of final grade |
| 3 Group Labs | 20% of final grade |
| Participation | Although attendance will not figure into your final grade students are expected to participate in class and in labs. |
| | Note: Those students who are going into the final exam with an A (not A-), are excused from the final exam. |

*Group members will grade members in their group based on group participation following the labs. Students should use the following criteria when assigning grades to other members.

| Rubric | Criteria |
|--------|---|
| 4 | Superior Performance: A leader and participated effectively in all levels of the assignments. |
| 3 | Good Performance: Participated in all aspects of the labs and positively contributed to the group's activities. |
| 3 | Average Performance: Attended group activities and participated in most activities. |
| 1 | Below Average Performance: Contributed minimally and attendance/tardiness may have been a problem. |
| 0 | Failure: Student failed to participate in-group activities. Students who do not participate will receive a 0% on their lab. |

I will use the following rubric to evaluate the three labs.

| Lab Score | Description |
|-----------|--|
| >95% | Group shows excellent job of analyzing and interpreting data and answers all questions correctly. Format is easy to analyze and contains no style, spelling, or grammatical errors. |
| 85-94% | Group shows a good job of analyzing and interpreting data but may have slight difficulty with specific items. Questions may be answered correctly or may contain minor errors. Format is easy to analyze but may contain minor style, spelling, or grammatical errors. |
| 70-84% | Group does a fair job of analyzing and interpreting data and has clear difficulty with specific items. Specific questions may not be answered correctly. Format may contain significant style, spelling, or grammatical errors. Group may have significant difficulty with understanding and carrying out the lab. |
| <70% | Group does a poor job of analyzing and interpreting data. Many questions are not answered correctly. Lab may be late. Group does not understand what is expected of them and has not sought out help. |
| 0% | Group fails to turn in lab or obtains data fraudulently. |

IV. Course materials

A. Required Textbooks

(Available for Rental <undergrads only>)

Raphael, L.J., Borden, G.J., & Harris, K.S. (2007). *Speech Science Primer, 5th Ed.*

B. Required Readings

On Reserve: Yost. *Psychoacoustics (on d2L)*
Zemlin (on d2L)

V. College of Education

A. Conceptual Framework

In keeping with our philosophy of “The Teacher as a Reflective Facilitator”, we, as educators, are committed to acting as facilitators of your learning in our teacher education program. Our goal is to help you become a teacher who: facilitates your students’ active participation in learning by providing creative learning experiences; improves your practice through reflection, active inquiry, and the assessment of your students’ unique learning styles; understands the needs of a diverse community of learners; and promotes literacy in all areas, including technology. We strive to reflect our commitment to this philosophy in all courses required for licensure, and our own teaching practice, scholarship and service.

B. Code of Ethics

The College supports the ASHA Code of Ethics

VI. University Policies

The University of Wisconsin-Whitewater is dedicated to a safe, supportive, and non-discriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Academic Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University Sponsored Events (for details please refer to the

current UW-Whitewater Undergraduate Timetable, the “Rights and Responsibilities” section of the Undergraduate Timetable, and the “Student Academic Disciplinary Procedures” (UWS Chapter 14)

For more details, see the Provost’s website at <http://acadaff.uww.edu/On-lineSyllabiMand%20info.html>

IX. Syllabus Changes

The schedule and procedures in this course may change. Students are responsible for any syllabi changes announced in class, via E-mail, or in writing.

X. Course Outline/Calendar

| Date (week of) | Topic | Readings | Other |
|----------------|------------------------|---|--------------------------|
| 1/17 | Acoustics | Text: Chap 3 | First class on Wed, 1/19 |
| 1/24 | Acoustics | | |
| 1/31 | Acoustics | | |
| 2/7 | Acoustics | | Exam W 2/9 |
| 2/14 | Speech Production | Text: Chap 4 (70-83), Chap 5, | |
| 2/21 | Speech Production | Chap 6, Chap 7 | Lab 1 due F 2/25 |
| 2/28 | Anatomy and Physiology | Zemlin 435-507, 561-562 | Exam W 3/2 |
| 3/7 | Anatomy and Physiology | | |
| 3/14 | Anatomy and Physiology | | Lab 2 due W 3/16 |
| 3/21 | SPRING BREAK | | |
| 3/28 | Anatomy and Physiology | | Exam W 3/30 |
| 4/4 | Anatomy and Physiology | | |
| 4/11 | Psychoacoustics | Psychoacoustics Reading on found in d2L | |
| 4/18 | Psychoacoustics | | Exam W 4/20 |
| 4/25 | Psychoacoustics | | |
| 5/2 | Speech Perception | Chap 10, & Chap 11 | Lab 2 due W 5/4 |
| MON 5/9 | FINAL EXAM / 7:45 AM | | Final Exam |