Communication Sciences and Disorders (CS&D) 863: Implantable Prostheses (3 credits)
University of Wisconsin-Madison
Department of Communicative Disorders
Fall Semester, 2017
Location: Goodnight Hall 412 & UWSP Distance Login

Professor Ruth Litovsky
Email: litovsky-teaching@waisman.wisc.edu
Office Phone: 262-5045

Lectures: 2:30-4:00pm Wednesday

How do I get help outside of class?
We are here to help you. We want you to succeed !!

1) ***Canvas.*** These are critical for going over material, problem sets, preparing for quizzes and exams.
2) I can meet with students before or after class; please contact me by email for an appointment.

I have 2 offices on campus. Depending on when we meet. Check in with me about location:

1) 378 Goodnight Hall
2) 521 Waisman Center, Office Phone 262-5045

Most important:

- **I'm delighted to be your teacher this semester. This material is fascinating, and hope you will enjoy learning about the world we hear in.**
- **Let's build a community of learning and listening, where all students' voices are heard.**
- **Please feel free to ask any questions at any time.**
- **Come to class prepared.**
- **Leave social media out of the classroom and engage with what the class has to offer.**

Texts:
Required texts:

a. Jace Wolfe (2014). Programming Cochlear Implants (Core Clinical Concepts in Audiology). Plural Publishing.
b. Rene Gifford (2013). Cochlear Implant Patient Assessment: Evaluation of Candidacy, Performance, and Outcomes. Plural Publishing.

Canvas.wisc.edu Online:
Syllabus, lecture notes, assignments and answer keys, news and general updates can all be found at

Username: your NetID
password: your NetID password

Course Description:

- This is a 2 credit undergraduate course, which is offered by the Department of Communicative Sciences and Disorders. It is typically taken by students in the AuD program during their 3rd year.
- Purpose of the course: to introduce students to the basic terminology, concepts, theories, and recent studies pertaining to implantable auditory prostheses.
- Structure: The course is divided into three major sections.
  1. What are auditory implants? History, background, development of internal and external components.
  2. Patient candidacy and outcomes.
  3. Basic background in programming philosophy and overview.
  4. Objective measures.

Course Policies:

- It's up to students to decide if they want to purchase a calculator for this course, but access to a calculator with log functions will make assignments and exams much easier.
- Students are required to have their own clicker with them at each class period.
- If you observe religious holidays that conflict with course activities and wish to reschedule assignments or tests that may conflict with such an observance, please notify the instructor no later than two weeks after the beginning of the semester.

Policies that ensure courtesy to other students:

- **Students are here to learn. Please be respectful of this. Avoid side conversations during class. It's not only disruptive to other students, but to the instructor as well.**
- **If you own a mobile phone or other device, make sure it's turned off before class.**
  - **Do NOT use text messaging, IM, email, social networking, etc… during class.**
  - **If you must do so, please leave the room first.**
- **Laptop computers, mobile phones and other electronic devices may not only be active during class with the professor's permission. While some students like to take notes using these excellent devices, others choose to engage in other activities during class, which turns out to be disruptive.**

Accommodation: If you are a student with a documented disability and wish to discuss academic accommodations to complete reading or written assignments, examinations, quizzes, or oral reports, you must contact the instructor within the first two weeks of the semester to discuss your needs. Please bring with you documentation from the McBurney Resource Center, if you have been granted such documents. **Grading:** Grading is based on performance on 2 exams, 4/5 best quizzes and presentation.

Academic Integrity:

- **Students must adhere to the rules and regulations as stated on the UW Madison website (see http://students.wisc.edu/doso/acadintegrity.html).**
- **Academic honesty and integrity are fundamental to the mission of higher education and of the university of Wisconsin system.**
- **There is zero tolerance for academic misconduct.**

The total number of points that can be earned equal 350

The final grade will consist of the percentage of points out of 350, as follows:
UW Madison
A = 94-100%, **AB** = 89-93%, **B** = 84-88%, **BC** = 79-83%, **C** = 70-78%, **D** = 60-69%, **F** = 59% or less.

UW Stevens Point
A = 94-100, **A-** = 91-93, **B+** = 89-89, **B** = 84-88, **B-** = 81-83, **C+** = 79-80, **C** = 70-78, **D** = 60-69, **F** = 59 or less.

Exams: Two exams will be given during the semester. Each one is worth up to 100 points. There are ***no make-ups***.

Quizzes: These are given every 2-3 weeks during class. A total of 5 will be given throughout the semester, each one worth 25 points. The quiz with the lowest score will be dropped and the top 4 will add up to a maximum of 100 points. There are ***no make-ups***. If you miss a quiz your score will be 0 points on that quiz.

- If you take 6 or 7 quizzes, your best 5 scores will count toward your final quiz score. In addition, your best score out of extra 2 quizzes will be counted towards extra credit (the score on the quiz will be divided by 2. You can earn up to 10 extra points from one extra quiz).
- Quizzes are intended to help students stay organized and focused on the material, and will assist students in anticipating material that will show up on the exams. They will be graded and returned to students during class.

Presentation:
During the last 2 weeks of the semester, students will give a 15-minute presentation. Each presentation will be based on a topic that the instructor approves in advance. The presentations are intended to focus on novel findings and outcomes with new programming or coding strategies in patients who use one of the following:

1) bone-anchored hearing aids,
2) middle ear implants,
3) cochlear implants
4) hybrid (cochlear implant + hearing aid)
5) single sided deafness (cochlear implant + normal ear)
6) brainstem implants.

Websites you should spend time exploring:
http://www.cochlearamericas.com/
http://www.advancedbionics.com/us/en/home.html
http://www.medel.com/us/

Course Format:
Lectures, demonstrations, handouts, and worksheets will supplement assigned readings in the text (see course schedule). Students are responsible for all material covered in class and for all reading assignments. Students are encouraged to ask questions and participate in class discussion.

COURSE SCHEDULE

Course Meeting Dates

9/6, 9/13, 9/20, 9/27, 10/4, 10/11, 10/18, 10/25, 11/1, 11/8, 11/15, 11/22, 11/29, 12/6, 12/13

Exam 1: Take-home during the week of 10/23
Exam 2: Take-home during finals week

Date	Topics Covered	Readings
9/6	- Impact of deafness on the auditory system - Overview of CIs - Hair Cell Regeneration	Butler and Lomber (2013) Svirsky (2017) article in Physics Today Rubel et al. (2013)
9/13	- Candidacy and Outcomes	Niparko studies (Eisenberg etc) Holden et al (2013) outcome adults Gaylor (2013) JAMA Meta analysis:
9/20	- History of CIs - Electrical stimulation complications - Basics in CIs	Wilson and Dorman (2008) Jeppesen and Faber (2013) ****W and S (2014), Ch. 1-2**
9/27	Presentation on surgical approaches Joe Roche, MD	*Readings TBA*
10/4	Presentation on pediatric evaluation, candidacy and mapping. Melanie Buhr-Lawler, AuD CCC	*Readings TBA*
10/11	- BAHA, Middle ear implants, - SSD - Auditory Brainstem Implants	*Niparko et al. 20103*
10/18	Presentation on candidacy, evaluation and programming of	*Readings TBA*

	older adults. Jennifer Ploch, AuD CCC,	
10/25	Presentation by Cochlear reps. Natalie Hodge Jessica Melton	
11/1	Presentation by Advanced Bionics rep. Stephanie Luepke	
11/8	Presentation by Med-El rep. Susan Trouba	
11/15	Guest lecture on bimodal fitting electroacoustic stimulation Sara Misurelli, PhD	Lenarz et al (2014) Hybrid Gantz et al. (2016) Hybrid
11/22	■ take home assignment	
11/29	Student Presentations	See Canvas
12/6	Student Presentations	See Canvas
12/13	Student Presentations	See Canvas