

# CS&D 863: Implantable Auditory Prostheses

## Fall, 2023

---

**Instructor:** Rachael Jocewicz, AuD, Lecturer, University of Wisconsin-Madison

**Email:** [jocewicz@wisc.edu](mailto:jocewicz@wisc.edu)

**Phone:** 920-471-8096 (cell)

**Office Hours:** By appointment in person, via phone, or on zoom

**Meeting Time:** Wednesdays from 6:00pm – 8:00pm, with some additional times in October

**Location & Instructional Modality:** In-person classes at UW-Madison & distance learning at UW-Stevens Point

**Dates:** September 6, 2023 through December 20<sup>th</sup>, 2023 per the UW Academic Calendar

**Credits:** 3

**Course Designations and Attributes:** Graduate, counts toward graduate coursework requirement

**Requisites:** Declared in the UW-Madison/UW-Stevens Point Doctor of Audiology (Au.D.) program

**Course Description:** The audiological management of hearing loss using implantable auditory prostheses.

### Course Overview/Description

---

This is a 3 credit graduate 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. The 3 credits are accomplished by attending 120 minutes of lecture per week with an additional 560 minutes of labs and other assignments, or the equivalent effort. Students typically spend 2-3 hours outside of class per credit hour reading, preparing for lecture, or studying for exams. In addition, students spend numerous hours outside of class researching and preparing an end-of-semester presentation on a topic of their choosing related to implantable auditory prostheses.

### Course Learning Objectives

---

1. Understand the history and general function of auditory implants, with emphasis on cochlear implants.
2. Understand referral and candidacy criteria for auditory implants and apply knowledge to case studies.
3. Develop an understanding of patient outcomes related to auditory implants and post-implantation patient management.
4. Attain knowledge and a basic understanding of programming philosophy in cochlear implants and the utility of objective measures.
5. Research and choose a topic in the field of auditory implants to create a professional presentation.

### Course Digital Instructional Tools

---

Course content and materials can be accessed at UW-Madison's Canvas site for CS&D 863.

### Recommended Textbook & Readings

---

- Readings, if required as part of an assignment, will be posted on Canvas.
- Recommended Textbook (you may be able to request an e-copy through the library):

Wolfe, Jace. (2020). *Cochlear Implants: Audiologic Management and Considerations for Implantable Hearing Devices*. Plural Publishing. ISBN 9781597568920.

## Course Schedule/Calendar

Day	Class Date	Topic	Due
Wednesday	9/6/2023	Overview of Course History of Cochlear Implants (CI), Introduction to CI	
Wednesday	9/13/2023	CI Evaluation & Candidacy - Adults	Weekly Summary and Assignment
Wednesday	9/20/2023	CI Evaluation & Candidacy - Pediatrics	Weekly Summary and Assignment
Wednesday	9/27/2023	Introduction to Signal Processing Guest Lecturer: Dr. Gunnar Quass, PhD, University of Michigan	Weekly Summary and Assignment
Wednesday	10/4/2023	Introduction to Programming	Weekly Summary and Assignment
Wednesday	10/11/2023	Anatomy/Physiology and Surgical Considerations Guest Lecturer: Dr. Joe Roche, MD, UW Health	Weekly Summary and Assignment
<b>Wednesday</b>	10/18/2023	MED-EL Presentation 2:00pm – 4:00pm Temporal Bone Lab 5:00pm – 8:00pm	<i>No weekly summary due</i>
<b>Thursday</b>	10/19/2023	Programming Lab, 8:30am – 10:30am, Goodnight Hall computer lab Advanced Bionics Presentation 11-1pm	<i>Weekly assignment completed during lab</i>
Wednesday	10/25/2023	Cochlear Americas Presentation <b>Open-book, take-home MIDTERM given, to be completed by 11:59pm Tuesday, October 31<sup>st</sup> (no proctoring)</b>	<b>Open-book, take-home midterm due 10/31/23 11:59pm</b>
Wednesday	11/1/2023	Post-implantation Assessment, Objective Measures (eCAP, eSRT)	Weekly Summary and Assignment
Wednesday	11/8/2023	Bilateral hearing with CI, SSD, EAS	Weekly Summary and Assignment
Wednesday	11/15/2023	Case Studies, Hot Topics in Research Guest Lecturer: Sara Misurelli, AuD, PhD, UW Health	Weekly Summary and Assignment
Wednesday	11/22/2023	Day before Thanksgiving - no in-person class, see Canvas (aural rehabilitation)	Weekly Summary and Assignment
Wednesday	11/29/2023	Bone Conduction Auditory Implants, Central Implants, Middle Ear Implants	Weekly Summary and Assignment
Wednesday	12/6/2023	Student Presentations	N/A
Wednesday	12/13/2023	Student Presentations ( <i>Last class day</i> )	N/A
Exam Week	12/15 - 12/21	Open-book, take-home FINAL exam (no proctoring)	<b>Due date of final exam TBD</b>

## Graded Items

Course Requirement:	Percentage of final grade
Midterm (open-book, take home)	25%
Final Exam (open-book, take home)	25%
Research Presentation	25%
Weekly Assignments (due Tuesdays at 11:59pm, graded on a 0-1-2 point scale, see below)	20%
Short Weekly Summary / Reflection	5%

- **Exams:** There will be two exams in the course and they will be open-book and take-home. No proctoring will be required. Use of generative AI is not allowed during exams. Please see statement on use of generative AI in the policies section.
- **Research Presentations:** More information regarding the research presentation will be provided on the Canvas website. Students will give their presentation in the final days of class.
- **Weekly Assignments:** There will be an assignment due each week on Tuesday nights, at 11:59pm. The assignments will vary in nature (for example, they could include watching a video or reviewing case studies). They will be graded on a 0-1-2 point scale. 2 points will be awarded if the assignment is completed satisfactorily, 1 point will be awarded if the assignment was attempted but is incomplete or late, and 0 points will be awarded if the assignment is not turned in.
- **Short Weekly Summaries/Reflections:** Each week, students will be asked to submit a weekly summary or reflection after class. This will also be due on Tuesdays at 11:59pm, but ideally the student would complete this as soon as possible. The weekly summary should be approximately 1-2 paragraphs and contain the following components (does not need to include all points):
  - Brief summary of main lessons or points from the lecture
  - Reflect on what you learned today that was new and what you already knew
  - Explanation of why this information could be useful as an audiologist
  - Summary of main points of confusion (if any)
  - Things that interested you or you would like to know more about

## Grading Scale

Grades are not curved.

<b>UW – Steven Point Letter Grade</b>	A	A-	B+	B	B-	C+	C	C-	D+	D	F
<b>Percentage</b>	100-93	92.9-90	89.9-88	87.9-82	81.9-80	79.9-78	77.9-72	71.9-70	69.9-68	67.9-60	<60
<b>UW – Madison Letter Grade</b>	A	A-B		B	B-C		C		D		F

## Course Policies and Statements

---

### **CLASS ATTENDANCE**

Class attendance is mandatory. Students are asked to provide the instructor with advanced notice of planned absences. Lectures will generally not be recorded.

### **ACADEMIC CALENDAR & RELIGIOUS OBSERVANCES**

#### [Academic Calendar & Religious Observances](#)

Establishment of the academic calendar for the University of Wisconsin-Madison falls within the authority of the faculty as set forth in [Faculty Policies and Procedures](#). Construction of the academic calendar is subject to various rules and laws prescribed by the Board of Regents, the Faculty Senate, State of Wisconsin and the federal government. For additional dates and deadlines for students, see the [Office of the Registrar's pages](#). Students are responsible for notifying instructors within the first two weeks of classes about any need for flexibility due to [religious observances](#).

### **ACADEMIC INTEGRITY STATEMENT**

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary [sanctions](#) include, but are not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

### **ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy ([UW-855](#)) require the university to provide reasonable accommodations to students with disabilities to access and participate in its academic programs and educational services. Faculty and students share responsibility in the accommodation process. Students are expected to inform faculty of their need for instructional accommodations during the beginning of the semester, or as soon as possible after being approved for accommodations. Faculty will work either directly with the student or in coordination with the McBurney Center to provide reasonable instructional and course-related accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. (See: [McBurney Disability Resource Center](#))

### **COURSE EVALUATIONS**

Students will be provided with an opportunity to evaluate their enrolled courses and their learning experience. Most instructors use AEFIS a [digital course evaluation](#) survey tool. In most instances, students receive an official email two weeks prior to the end of the semester, notifying them that anonymous course evaluations are available. Student participation is an integral component of course development, and confidential feedback is important. UW-Madison strongly encourages student participation in course evaluations.

### **DIVERSITY & INCLUSION STATEMENT**

[Diversity](#) is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

### **MENTAL HEALTH AND WELL-BEING STATEMENT**

Students often experience stressors that can impact both their academic experience and personal well-being. These may include mental health concerns, substance misuse, sexual or relationship violence, family circumstances, campus climate, financial matters, among others.

Students are encouraged to learn about and utilize UW-Madison's mental health services and/or other resources as needed. Visit [uhs.wisc.edu](https://uhs.wisc.edu) or call University Health Services at (608) 265-5600 to learn more.

### **PRIVACY OF STUDENT RECORDS & THE USE OF AUDIO RECORDED LECTURES STATEMENT**

View [more information about FERPA](#).

Lecture materials and recordings for this course are protected intellectual property at UW-Madison. Students in courses may use the materials and recordings for their personal use related to participation in class. Students may also take notes solely for their personal use. If a lecture is not already recorded, students are not authorized to record lectures without permission unless they are considered by the university to be a qualified student with a disability who has an approved accommodation that includes recording. [Regent Policy Document 4-1] Students may not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities, with the exception of sharing copies of personal notes as a notetaker through the McBurney Disability Resource Center. Students are otherwise prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

### **STUDENTS' RULES, RIGHTS & RESPONSIBILITIES**

[Rights & Responsibilities](#)

### **TEACHING & LEARNING DATA TRANSPARENCY STATEMENT**

The privacy and security of faculty, staff and students' personal information is a top priority for UW-Madison. The university carefully reviews and vets all campus-supported digital tools used to support teaching and learning, to help support success through [learning analytics](#), and to enable proctoring capabilities. View the university's full teaching and learning [data transparency statement](#).

### **USE OF GENERATIVE ARTIFICIAL INTELLIGENCE (AI)**

You are welcome to use artificial intelligence (AI) tools and applications (such as ChatGPT, DALL-E, etc.) in this class as they support the learning objectives of this course EXCEPT during exams.

Please be aware you are responsible for the information you submit based on an AI query (i.e. ensure your instructor has allowed you to publicly post course content such as assignment or assessment prompts and that the AI generated results do not contain misinformation or unethical content). Your use of AI tools must be documented and cited AND I request a copy of the prompt and the output of the generative AI.

Use APA to cite use of AI tools. Currently, APA recommends that text generated from AI be formatted as "Personal Communication." As such, it receives an in-text citation but not an entry on the References list. Examples: (OpenAI, personal communication, January 16, 2023).