

**University of Florida**  
**College of Public Health & Health Professions Syllabus**  
**Department of Speech, Language, & Hearing Sciences**  
**SPA6581-19359 Section 1E21: Cochlear Implants 2 (3 credit hours)**  
 Semester: Spring, 2023  
 Delivery Format: On-campus and online as needed  
 Course Website: Canvas (<http://elearning.ufl.edu>)

**Instructor Name:** Sterling W. Sheffield, Au.D., Ph.D. CCC-A  
**Office:** HPNP 2130  
**Phone Number:** 352-273-6161  
**Email Address:** s.sheffield@ufl.edu  
**Office Hours:** by appointment only  
*Preferred Course Communications: canvas or email*  
**Class Meeting Time:** T6-8, Tuesdays 12:50-3:50p  
**Classroom:** HPNP G111

## **PURPOSE, CONTENT AND OUTCOME**

### **Course Overview**

Theoretical and applied understanding of cochlear implants and other implantable hearing technologies. This course covers topics including: candidacy, programming considerations, selection and evaluation of assistive devices, habilitative/rehabilitative management, and billing and coding.

### **Course Objectives and/or Goals**

Knowledge Objectives: Students will be able to:

1. Discuss the psychological issues for adult and pediatric CI users and their families
2. Current implant systems and the future possibilities of implantable hearing devices
3. Discuss deaf culture and their attitudes toward different assistive devices
4. Distinguish among the roles of the different professionals on the cochlear implant team.
5. Critique the benefits and limitations of cochlear implants.
6. Demonstrate the protocol and terminology for programming a cochlear implant and the differences between manufacturers
7. Describe the assessment protocol for both before and after implantation for adults and children
8. Describe objective measures in cochlear implants, their purposes and how to complete the testing
9. Demonstrate knowledge of current assistive listening technologies and their benefits.

Skill Objectives: Students will be able to:

1. Evaluate the histories of child and adult candidates for cochlear implantation based on audiological, medical and psychosocial criteria.
2. Evaluate the prognosis and treatment options of patients and families based on case histories.
3. Compare and contrast various FDA-approved cochlear implants.
4. Program a demo cochlear implant for each manufacturer
5. Orient a patient or family to a cochlear implant and sound processor for each manufacturer

### **Course Format and Instructional Style**

SPA6581 Cochlear Implants 2 is a graduate level course providing detailed instruction, resources, discussion, and practice with cochlear implants and other implantable technology. To successfully address all of these topics during the semester a combination of lectures, readings, instructional videos, resources, class discussion, assignments and labs will be used. E-learning in Canvas will be used to facilitate discussion, distribute materials, and for assignment submissions during the semester. This course is planned to be primarily given in-person, but several lectures/class periods given by

guest speakers will be provided remotely and we will plan to have a combination of in-person and remote participation due to the pandemic. The following are important instructions to help with the success of this course and format.

You are expected to actively engage in the course throughout the semester. Please come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers.

### **Course Materials and Technology**

#### *Required/Recommended Textbooks:*

1. Wolfe, J. (2018). *Cochlear implants: audiologic management and considerations for implantable hearing devices*. San Diego: Plural Pub.

#### *Suggested books:*

1. Gifford, R. H. (2020). *Cochlear Implant Patient Assessment: Evaluation of Candidacy, Performance, and Outcomes*. San Diego: Plural Pub.

*Each student is expected to have access to each Wolfe textbook (whether it is a borrowed library book, shared with a classmate, or purchased). The suggested textbooks are good resources for cochlear implants and are highly recommended for those interested in working in cochlear implants long term. Other supplemental readings will be available on Canvas.*

*Website: e-Learning in Canvas, accessed via <http://elearning.ufl.edu/>  
For technical support for this class, please contact the UF Help Desk at:*

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- (352) 392-HELP - select option 2
- <https://kb.helpdesk.ufl.edu/FAQs/E-Learning>
- <https://lss.at.ufl.edu/help.shtml>

## DESCRIPTION OF COURSE CONTENT

**Topical Outline/Course Schedule.** Schedule is subject to change based on class needs, availability of guest lecturers, and unforeseen circumstances. Additional reading assignments may be posted throughout the semester to the course e-Learning site. The bolded readings indicate the required readings that the reading quizzes are based on. The other readings are optional based on your interest in the topic and desire for more details.

Week	Date(s)	Agenda/Topic(s)	Readings	Assignment Due
1	1/10	Review of candidacy, regulatory approval, and factors affecting outcomes	Syllabus Wolfe Chs <b>4</b> , 21-22	Group presentation on review topics
2	1/17	Pre-op assessment Post-op Clinical Assessment What are we missing in assessment?	Wolfe Ch 5-6	
3	1/24	Basic Programming	Wolfe Ch 7, <b>14</b>	
4	1/31	Basic Programming, Red flags and Troubleshooting	Wolfe Chs 14, 20, <b>23</b>	Case review assignment
5	2/7	<b>MED-EL visit (Dr. Kellie Hibbitts)</b>	Wolfe Chs 11, <b>17</b>	Paper Assignment
6	2/14	<b>Cochlear programming visit (Ryan Funderburk)</b>	Wolfe Chs 10, <b>16</b>	
7	2/21	Signal coding strategies and <b>CI Surgery (Dr. Si Chen)</b>	Wolfe <b>Chs 8</b> and 12	MED-EL Programming assignment
8	2/28	Midterm in 1 <sup>st</sup> half of class (90 minutes)		Clinic resource guide draft
9	3/7	<b>AB programming visit (Dr. Madeline Coffey)</b>	Wolfe Ch 9, <b>15</b>	
10	3/21	Sound processor options (Student presentations) Bilateral, Bimodal, Hearing preservation, SSD	Manufacturer product guides Wolfe Ch 20, <b>24</b>	Student presentations on sound processor options in class
11	3/28	Non-traditional candidates (Guest lecture) ABIs	Wolfe Ch 23, <b>25</b>	Cochlear Programming assignment
12	4/4	Objective measures and CIs	Wolfe Chs 13, <b>18</b>	
13	4/11	Billing and coding with CIs Hearing assistive technology and CIs	<b>PDF and outside of class audiologyonline lecture</b>	AB programming assignment
14	4/18	SLP's role and educational and intervention options and issues (Laura Mundorf, SLP) Counseling in CIs	TBD	Final clinic resource guide due
15	4/25	Final Exam	NA	Final Exam 4/25

## ACADEMIC REQUIREMENTS AND GRADING

### Examinations

Two exams will be completed in class time. The exams must be completed individually. Any collaboration will be considered a breach of the honor code and will earn the student(s) a grade of 0 for the assignment. The midterm Exam will cover the topics from weeks 1-7. The final exam will be cumulative and cover the entire course. Question types for exams will likely be short answer, but may include matching, fill in the blank, and multiple choice and will be focused on case study examples.

### Assignments

- 1) Group presentations on review topics and sound processor products
  - a. These group presentations will be completed during class in groups of 2-3 to reinforce and expand on knowledge of critical aspects of cochlear implants you were introduced to in Cochlear Implants 1. One of the presentations will require preparation outside of class while the other will be mostly prepared for and given in class.
- 2) Paper Assignment
  - a. Each student will select one of several topics to write a 3-5-page persuasive paper to an audiology audience. You will pretend you have been asked by AudiologyOnline to write a paper on why a relatively new and uncommon practice should be added to every cochlear implant centers protocol. The paper must include evidence from the current and any relevant past research literature and present a reasonable argument for the change in clinical protocol.
- 3) Programming assignments
  - a. Program a demo cochlear implant and submit the patient's program file on Canvas. Students will also submit a reflection paper after the last programming assignment on basic cochlear implant programming and the differences between companies. This assignment will be completed in groups of 2-3.
- 4) Case review assignment
  - a. Each student will complete a review of a small number of cochlear implant candidacy evaluations/cases. You will determine if the patient is a candidate for a cochlear implant, whether a cochlear implant should be recommended for each case, whether off or on label, what configuration would be recommended, and what prognosis you would give based on patient details and testing. This assignment will be completed in groups of 2-3.
- 5) Clinic Resource Guide
  - a. Each student will create a unique clinical resource guide on cochlear implants. The goal of this assignment is to create a personal resource (quick guide) for you to use in clinical settings. The information included within the guide may vary from person to person, due to personal preferences and needs. Suggested information for this guide includes: candidacy criteria, assessment protocols, programming techniques, and red flags or tips for troubleshooting. One draft is due earlier in the semester, failure to meet this deadline will result in an automatic 10-point deduction on the final grade. The final product will be due near the end of the semester.

<b>Requirement</b>	<b>Method of Submission</b>	<b>Points</b>	<b>% of final grade</b>
Midterm Exam	In class on paper	200	40%
Final (Written)		200	

Group presentations	Canvas	25 each	45%
Programming assignments	Canvas	50 each	
Case review assignment	Canvas	100	
Paper Assignment	Canvas	150	
Clinic Resource Guide	Canvas	50	5%
Reading quizzes	Class	10 each, 100 total	10%
<b>Total</b>			<b>100%</b>

### Grading Scale

<b>Points earned</b>	<b>95-100</b>	<b>90-94</b>	<b>87-89</b>	<b>83-86</b>	<b>80-82</b>	<b>77-79</b>	<b>73-76</b>	<b>70-72</b>	<b>67-69</b>	<b>63-66</b>	<b>60-62</b>	<b>&lt;60</b>	
<b>Letter Grade</b>	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	W
<b>Grade Points</b>	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0

Please be aware that a C- is not an acceptable grade for graduate students. The GPA for graduate students must be 3.0 in all 5000 level courses and above to graduate. A grade of C counts toward a graduate degree only if a sufficient number of credits in courses numbered 5000 or higher have been earned with a B+ or higher. In addition, the Bachelor of Health Science Program does not use C- grades.

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:

<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### Make up Exams or Other Work

Late assignments will not be accepted unless prior approval is granted by the instructor. If there is a documented illness, family emergency or university-sanctioned activity which requires you to miss an exam or assignment deadline please contact the instructor immediately so other arrangements can be made.

### Class Attendance

You are required to attend each class and, once in class, you are expected to participate. Your questions, comments, and observations make the class lively and interesting and are an intrinsic aspect of professionalism. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. Attendance will be verified by the instructor at the start of class. Serial tardiness and absences will result in points off your semester grade. Excused absences must be consistent with university policies in the Graduate Catalog

(<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation. Additional information can be found here:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

### Relation of course to Program Outcomes

The content of this course is designed to help you meet the following 2020 Standards for the Certificate of Clinical Competence in Audiology. Content will be learned from assigned readings, lectures, and class discussions. Outcomes and will be assessed through the labs and exams.

**Standard II-A: Foundations of Practice**

A12. Effective interaction and communication with clients/patients, families, professionals, and other individuals through written, spoken, and nonverbal communication

**Standard IV-C: Counseling**

D4. Enhancing clients'/patients' acceptance of and adjustment to hearing aids, hearing assistive technologies, and osseointegrated and other implantable devices

**Standard IV-E: Education/Research/Administration**

E8. Selecting and fitting appropriate amplification devices (i.e., standard, bone, osseointegrated, and implantable devices) and assistive technologies

E12. Incorporating sound field functional gain testing when fitting osseointegrated and other implantable devices

E13. Conducting individual and/or group hearing aid and wireless technology orientations to ensure that clients/patients can use, manage, and maintain their instruments appropriately

E14. Identifying individuals who are candidates for cochlear implantation and other implantable devices

E15. Counseling cochlear implant candidates and their families regarding the benefits and limitations of cochlear implants to (a) identify and resolve concerns and potential misconceptions and (b) facilitate decision making regarding treatment options

E16. Providing programming and fitting adjustments; providing post-fitting counseling for cochlear implant clients/patients

**STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT****Expectations Regarding Course Behavior**

You are expected to be respectful to the course instructors, your classmates and all guest lecturers. This includes listening when others are speaking, no sideline chatter and playing your part in class discussions and activities. Communication between students and instructor should be respectful at all times. This includes class and lab interactions, e-mail, discussion boards, and other electronic communication.

Using personal electronic devices is not permitted, unless related to course activity. If you are found to be using devices inappropriately, you will be asked to put the device away and possibly leave class.

**Academic Integrity**

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

**“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”**

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

**“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”**

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

### **Professionalism and COVID**

As students pursuing a path in the health professions or public health, it is crucial to demonstrate professional behaviors that reflect integrity and commitment to the health of patients, fellow health professionals, and to populations we serve. To accomplish this, a strong responsibility for the well-being of others must be evident in our decisions, along with accountability for our actions. Professionalism in the health disciplines requires adherence to high standards of conduct that begin long before graduation. This is particularly true during times of health emergencies such as the COVID pandemic, given our professional habits can have a direct impact upon the health of persons entrusted to us.

If you are not vaccinated, get vaccinated. Vaccines are readily available at no cost and have been demonstrated to be safe and effective against the COVID-19 virus. Visit this link for details on where to get your shot, including options that do not require an appointment: <https://coronavirus.uflhealth.org/vaccinations/vaccine-availability/>. Students who receive the first dose of the vaccine somewhere off-campus and/or outside of Gainesville can still receive their second dose on campus.

In response to COVID-19, the following professional practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to protect the health and safety of ourselves, our patients, our neighbors, and our loved ones.

- You are required to wear approved face coverings at all times while in Health Science Center classrooms and within Health Science Center buildings even if you are vaccinated.
- If you are sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email [covid@shcc.ufl.edu](mailto:covid@shcc.ufl.edu)) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the UF Health Screen, Test & Protect website for more information.
- Continue to follow healthy habits, including best practices like frequent hand washing.
- Avoid crowded places (including gatherings/parties with more than 10 people)

Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class. Hand sanitizing stations will be located in every classroom.

Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. If you are withheld from campus by the Department of Health through Screen, Test & Protect you are not permitted to use any on campus facilities. Students attempting to attend campus activities when withheld from campus will be referred to the Dean of Students Office.

Continue to regularly visit [coronavirus.UFHealth.org](https://coronavirus.UFHealth.org) and [coronavirus.ufl.edu](https://coronavirus.ufl.edu) for up-to-date information about COVID-19 and vaccination.

### **COVID-19 Symptoms**

See <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html> for information about COVID-19 symptoms, which may include fever, cough, shortness of breath or difficulty breathing, fatigue, chills, muscle or body aches, headache, sore throat, congestion or runny nose, nausea or vomiting, diarrhea, and loss of taste or smell.

### **Recording Within the Course:**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Our class sessions may be audio visually recorded for students in the class to refer back with added captioning and for enrolled students who are unable to attend live.

### **Policy Related to Guests Attending Class:**

Only registered students are permitted to attend class. However, we recognize that students who are caretakers may face occasional unexpected challenges creating attendance barriers. Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester. This is two sessions total across all courses. No further extensions will be granted. Please note that guests are **not** permitted to attend either cadaver or wet labs. Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety. Link to full policy: <http://facstaff.php.ufl.edu/services/resourceguide/getstarted.htm>

### **Online Faculty Course Evaluation Process**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## **SUPPORT SERVICES**

### **Accommodations for Students with Disabilities**

If you require classroom accommodation because of a disability, it is strongly recommended you register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class or as soon as you believe you might be eligible for accommodations. The Dean of Students Office will provide documentation of accommodations to you, which you must then give to me as the instructor of the course to receive accommodations. Please do this as soon as possible after you receive the letter. Students with disabilities should follow this procedure as early as possible in the semester. The College is committed to providing reasonable accommodations to assist students in their coursework.

### **Counseling and Student Health**

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The **Counseling and Wellness Center** 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- **U Matter We Care** website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The **Student Health Care Center** at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789 <http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>
- **University Police Department:** [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).
- **UF Health Shands Emergency Room / Trauma Center:** For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

### **Inclusive Learning Environment**

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the

Vietnam Era Veterans' Readjustment Assistance Act." If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: [www.multicultural.ufl.edu](http://www.multicultural.ufl.edu)