Cochlear Implants 1
SPA 6581  Section 17289

Class Periods:  Wednesday, 12:50 pm – 3:50 pm (periods 6-8)
Delivery Format: on-campus
Location:  HPNP G110
Academic Term:  Spring 2023
Credits:  3 credit hours

Instructor
Name: Hollea Ryan, Au.D., Ph.D., CCC-A
Email Address: hollea.ryan@phhp.ufl.edu
Office Phone Number: 352-273-9716
Office Hours:  Tuesdays, 4 pm – 5 pm in HPNP 2135 or by appointment

Course Description
This course covers the fundamental and applied principles in cochlear implants including: candidacy, programming considerations, outcomes, signal coding strategies, and other new technology options for individuals with hearing loss.

Course Pre-Requisites / Co-Requisites
No course pre-requisites.

Instructional Method
Lectures, readings, instructional videos, student presentations, and resources provided in Canvas.
**Course Objectives**

Students will demonstrate knowledge of:

- Functional and physiological operation of cochlear implantation
- Protocol and terminology of cochlear implant programming
- Various signal coding strategies including cochlear implant simulation
- Benefits and limitations of cochlear implants.
- Pediatric/adult candidacy, outcomes, and factors affecting outcomes
- Psychophysical studies with cochlear implant patients

**Relation to Program Outcomes**

The content of this course is designed to allow you to fulfill the following CCC-A Standard IV: Knowledge and Skills Outcomes.

Standard IV-A: Foundations of Practice

A7. Effects of hearing loss on communication and educational, vocational, social, and psychological functioning

A9. Patient characteristics (e.g., age, demographics, cultural and linguistic diversity, medical history and status, cognitive status, and physical and sensory abilities) and how they relate to clinical services

A11. Principles, methods, and applications of psychometrics

A12. Principles, methods, and applications of psychoacoustics

A14. Physical characteristics and measurement of electric and other non-acoustic stimuli

A15. Assistive technology

A18. Principles and practices of research, including experimental design, statistical methods, and application to clinical populations

**Materials and Supply Fees**

None.

**Required Textbooks and Software**


**Attendance Policy, Class Expectations, and Make-Up Policy**

State whether attendance is required and if so, how will it be monitored? What are the penalties for absence, tardiness, cell phone policy, laptop policy, etc. What are the arrangements for missed homework, missed quizzes, and missed exams? This statement is required: Excused absences must be consistent with university policies in the Graduate Catalog and require appropriate documentation. Additional information can be found in Attendance Policies.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date(s)</th>
<th>Agenda/Topic(s)</th>
<th>Assignments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/11/2023</td>
<td>· Course Introduction &lt;br&gt;· Basic Operation and History of CI Technology (Ch1) &lt;br&gt;· Physics and Electronics of CI (Ch2)</td>
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<tr>
<td>2</td>
<td>1/18/2023</td>
<td>· Anatomy and Physiology Associated with CI (Ch3) &lt;br&gt;· Medical and Surgical Aspects of CI (Ch12)</td>
<td>· Week 1 summary</td>
</tr>
<tr>
<td>3</td>
<td>1/25/2023</td>
<td>· Article Presentation - Medical &amp; Surgical article &lt;br&gt;· Basic Terminology of CI Programming (Ch7) &lt;br&gt;· CI Signal Coding Strategies (Ch8, 9, 10, 11)</td>
<td>· Week 2 summary &lt;br&gt;· Peer Review</td>
</tr>
<tr>
<td>4</td>
<td>2/1/2023</td>
<td>· Article Presentation - Signal Coding article &lt;br&gt;· CI Candidacy / Outcome (Ch4, 5, 6) &lt;br&gt;· Factor Affecting Outcomes (Ch21, 22)</td>
<td>· Week 3 summary &lt;br&gt;· Peer Review</td>
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<tr>
<td>5</td>
<td>2/8/2023</td>
<td>· Article Presentation - Candidacy &amp; Outcome article &lt;br&gt;· Speech Processing Strategies</td>
<td>· Week 4 summary &lt;br&gt;· Peer Review</td>
</tr>
<tr>
<td>6</td>
<td>2/15/2023</td>
<td>· Article Presentation - Speech Processing Strategies &lt;br&gt;· Benefits and limitations of cochlear implants &lt;br&gt;· Midterm Review</td>
<td>· Week 5 summary &lt;br&gt;· Peer Review</td>
</tr>
<tr>
<td>7</td>
<td>2/22/2023</td>
<td>· Midterm Exam</td>
<td>· Week 6 summary</td>
</tr>
<tr>
<td>8</td>
<td>3/1/2023</td>
<td>· Midterm Exam Review &lt;br&gt;· Article Presentation - Benefits &amp; Risks article &lt;br&gt;· Psychophysical studies: Place information</td>
<td>· Peer Review</td>
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</tbody>
</table>
### Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8/2023</td>
<td>Article Presentation - Place Information article</td>
<td>Week 8 summary</td>
</tr>
<tr>
<td></td>
<td>Psychophysical studies: Temporal Information</td>
<td>Peer Review</td>
</tr>
<tr>
<td>3/15/2023</td>
<td><strong>No Class (Spring Break)</strong></td>
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<tr>
<td>3/22/2023</td>
<td>Article Presentation - Temporal Information article</td>
<td>Week 9 summary</td>
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<td></td>
<td>Psychophysical studies: Intensity Information</td>
<td>Peer Review</td>
</tr>
<tr>
<td>3/29/2023</td>
<td>Article Presentation - Intensity Information</td>
<td>Week 11 summary</td>
</tr>
<tr>
<td></td>
<td>Psychophysical studies: Non-speech perception</td>
<td>Peer Review</td>
</tr>
<tr>
<td>4/5/2023</td>
<td>Article Presentation - Non-speech Perception article</td>
<td>Week 12 summary</td>
</tr>
<tr>
<td></td>
<td>Psychophysical studies: Speech perception</td>
<td>Peer Review</td>
</tr>
<tr>
<td>4/12/2023</td>
<td>Psychophysical studies: Music perception (recorded)</td>
<td>Week 13 summary</td>
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<td><strong>Dr. Ryan @ CAPCSD</strong></td>
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<tr>
<td>4/19/2023</td>
<td>Final Review (recorded; Socrative)</td>
<td><strong>Dr. Ryan @ AAA</strong></td>
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<tr>
<td>4/26/2023</td>
<td>Final</td>
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*Review the weekly agenda and all materials and readings each week prior to class.*

*Please note: The instructor reserves the right to change the schedule of the course and the topics. The above schedule of weekly topics is subject to change depending upon availability of guest lecturers and unforeseen circumstances.*

### Evaluation of Grades

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Due Date</th>
<th>Percentage of Final Grade</th>
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</thead>
<tbody>
<tr>
<td>Midterm exam</td>
<td>3/1/23</td>
<td>25%</td>
</tr>
<tr>
<td>Final exam</td>
<td>4/26/23</td>
<td>25%</td>
</tr>
<tr>
<td>Article review &amp; presentation</td>
<td>Varies; see canvas</td>
<td>20%</td>
</tr>
<tr>
<td>Weekly topic summary</td>
<td>Varies; see canvas</td>
<td>20%</td>
</tr>
<tr>
<td>Weekly peer review rating</td>
<td>Each day of presentations</td>
<td>10%</td>
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<tr>
<td></td>
<td></td>
<td>100%</td>
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</table>
Grading Policy
The following is given as an example only.

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
<th>Grade Points</th>
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</thead>
<tbody>
<tr>
<td>93.0 - 100.0</td>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>90.0 – 92.9</td>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>87.0 - 89.9</td>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>83.0 - 86.9</td>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>80.0 – 82.9</td>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>77.0 - 79.9</td>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>73.0 – 76.9</td>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>70.0 – 72.9</td>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>67.0 – 69.9</td>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>63.0 – 66.9</td>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>60.0 - 62.9</td>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>0 - 59.9</td>
<td>E</td>
<td>0.00</td>
</tr>
</tbody>
</table>

More information on UF grading policy may be found at:
UF Graduate Catalog
Grades and Grading Policies

Exam Policy

The final exam is non-cumulative; however, students will have needed to master concepts presented earlier in class to be successful on the final exam. Exams will be given in class in paper and pencil format. Exams are closed book will be administered and proctored by the course instructor or designee.

If you are sick on the date of an exam, you must email the instructor before the class begins, and provide a note from a doctor per the UF policies on excused absences. If you know in advance you will be absent for a particular exam, please let the instructor know before you go to set up a time to take the exam before the next class.

Policy Related to Make up Exams or Other Work

In general make-up exams will not be given. Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Required Class Attendance

Attendance and Participation: Students are expected to be present for all class sessions. Students are responsible for all content covered during the class and should seek notes and other details from fellow students for the date missed. Any assignment completed as part of class (i.e., peer-review), without prior arrangements or documentation of an excused absence, will covert to a grade of "zero". Students are still expected to submit via Canvas any previously assigned activities or assignments due on the missed class day.

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.
STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

Students are expected to participate and engage actively in class discussions. Students are expected to contribute to class discussions, and offer time for others to speak. Students are expected to not engage in disruptive activities (i.e., using a cellphone in class, dominating the conversation). Laptops are permitted provided that their use is relevant to class discussions, materials, and sessions.

Communication Guidelines

Please make sure you utilize appropriate etiquette in all in person and online communication opportunities. Please see this guide for additional information:


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.

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/.
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.phhp.ufl.edu/services/resourceguide/getstarted.htm

Students Requiring Accommodations

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.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the Notification to Students of FERPA Rights.

Campus Resources:

Health and Wellness

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.
- You 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
QUICK References

U Matter, We Care:
If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student. http://www.umatter.ufl.edu/

Counseling and Wellness Center: counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies. http://www.counseling.ufl.edu

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu.

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.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints Campus

On-Line Students Complaints

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