**COURSE SYLLABUS**

# **CSD 856: Amplification I, 2 s.h.**

**University of Wisconsin AuD Program**

**Spring 2020**

**MW 1:00-1:50**

**Room 234 CPS on UWSP campus**

**Professor:** Dr. Rebecca L. Warner Henning

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**Office Hours:** Monday & Wednesday 10:30-11:30, Friday 11-noon, & by appointment

**Reaching me by phone:** You are welcome to try calling my office anytime, but if you want to *guarantee* that I’ll be available, please arrange a time with me beforehand.

**E-mail communication:**You are expected to check your school e-mail account at least once per weekday for any important class announcements. I typically reply to emails within two business days or sooner. I cannot guarantee that I will check email on evenings and weekends, so please plan ahead to avoid last-minute weekend or late-night “emergencies”.

**You are not permitted to turn in an assignment late because you are waiting for a reply from me.** If you’ve emailed me with reasonable advance notice (see later in this paragraph), but I haven’t replied within the timeframe given above, there is a chance I did not receive your message. Please check your sent-mail to see if it was actually sent, and try re-sending it or calling me. If you are emailing a question within 1-2 days or less of the deadline, I may not have time to reply/answer before the deadline. If I do not reply before the deadline, then you should submit your assignment by the deadline, using your best judgment to answer your question.

**Prerequisites:**

* At least second-semester AuD student status
* Concurrent enrollment in CSD 857 Amplification I Lab

**Required Readings:**

* + Harvey Dillon, *Hearing Aids,* **2nd edition**
  + Additional required readings on Canvas.

**Credit Hour Policy Standard:**

This class meets for two 50-minute class periods each week, and carries the expectation that students will work on course learning activities (reading, studying, reviewing and organizing your notes, preparing for class, etc.) for about 2 hours outside of the classroom for every class period. The information about class meeting times and expectations for student work are included in this syllabus.

**Course Description:**

This course will cover much of the beginning to intermediate knowledge and skills that you will need to begin successfully fitting your patients with hearing aids! Amplification I is the first part of a roughly 2 1/2-semester course sequence on hearing aids. (Amplification II is the next course, and the 1/2 semester is in Pediatric Habilitation/Rehabilitation). The goal of this course is to cover the topics that will allow you to begin hands-on work with hearing aids in the clinic as soon as possible. Between lab and lecture, some topics include: the components and features of hearing aids, electroacoustic measurement and verification of hearing aids in couplers and real ears, taking earmold impressions, earmold and earshell acoustics, assessing patient needs and determining hearing aid candidacy, using prescriptive fitting strategies, and hearing aid repair and troubleshooting.

Even across 2 1/2 semesters, it is not possible to cover all of the information you will need to know about hearing aids, and the specific technology **will change** by the time you graduate. Thus, my goal is to cover the important foundation information upon which you can build the necessary habit of continued learning. Peer-reviewed journal articles (i.e., articles in journals such as *JAAA*, *Ear and Hearing*, *American Journal of Audiology*, etc.) are the best source of unbiased, evidence-based information about the effectiveness of various hearing aid technologies. A disadvantage of these journals, though, is that the peer-review process moves more slowly than changes in hearing aid technology.

If you need to learn about how the latest hearing aid technology works, the best sources of current information are audiologyonline and the manufacturers themselves (i.e., information from your sales rep, the manufacturers’ websites, or audiologists who work in technical support at the manufacturer). The disadvantage of information from these sources is that, since it has not gone through the peer-review process, it is often biased toward overestimating the benefits of new technology and new features. You should view any claims of benefits or the “latest and greatest” from these (non-peer-reviewed) sources with a skeptical eye; in some cases, the claims are true, but they may also be exaggerated or presented as marketing material / advertising rather than as objective, evidence-based information. As you gain more experience and knowledge in hearing aids and research methods over the next few years, you will hone your ability to differentiate true benefits from marketing hype.

**Student Requirements:**

Personal situations and/or difficulty meeting course requirements:

If you are concerned that a family or personal situation may affect your ability to meet the class requirements, please discuss this with me (or with the graduate advisor or another faculty member on your home campus with whom you feel comfortable) so that we can be aware of the situation and figure out alternative arrangements if needed. It is far better to be pro-active about discussing possible difficulties than to wait until your performance in the class has already suffered. I will not probe you for in-depth personal information if you do not wish to share it; however, you will typically need to provide some type of documentation to at least one faculty member (either myself or the graduate advisor on your home campus) if alternative arrangements, such as extended deadlines or different exam dates, are needed.

**You must complete all of the following in order to pass this course:**

Classroom Etiquette, Professionalism, & Attendance

As doctoral students, I expect you to be prepared for class, and to regularly attend class with an attitude of respect, engagement, enjoyment, and professionalism. **I expect you to behave respectfully toward everyone in the class and myself.** **Please be aware that distracting behaviors (chatting, texting, surfing the internet, sharing notes, leaving the room, etc.) are noticed by everyone and disrupt the class.**

I expect you to attend class regularly. I understand that you may occasionally need to miss class for either excused or unexcused reasons; however, repeated absences are not appropriate in this class. Regardless of your reason for missing class, you are responsible for contacting me as soon as reasonably possible and making up any missed work. If you miss more than two classes, I may ask you to provide me with documentation for excused absences. *More than two absences for unexcused, undocumented reasons could, depending on the circumstances, result in an improvement plan for lack of professionalism.* Excused absences are for reasons such as illness, death in the family, personal or family emergency, etc.

Reflection Assignments

To encourage the process of learning and applying information, you are required to submit two reflections during this class. The reflections must discuss application of the course material to a clinical situation. One reflection may be submitted at any time between February 5 until **1 pm on March 2,** and the other may be submitted at any time between March 9 until **1 pm on April 20.**

Here are the requirements for each reflection:

* Each one must be 1-2 double-spaced pages in length.
* Background and/or description of the clinical situation or problem. Do not include any direct identifiers (such as the patient’s name), and only include any demographic information and patient characteristics that are relevant to the points you’ll be making. It’s OK to be less specific (e.g., “The patient is in his 60s” instead of, “The patient is 65,” or, “He is an avid runner,” instead of, “He is currently training for his fifth Boston Marathon”) to help protect privacy, if the specific information isn’t truly necessary for your reflection. (If specific information is necessary for the points you’ll be discussing, though, then please include the specific information).
* Description of the information from class (or related to this class) that you applied to this situation
  + Indicate how you obtained this information: lecture/class notes? Textbook? Another source such as audiologyonline or a manufacturer’s website?
* Description of how you applied or used the information from this class
* Reflect and discuss: Did the situation go as you expected? With hindsight, would you do anything differently, or try a different idea? Did you (or another student or supervisor) try anything different at the time? (If the situation didn’t go as expected, or if you’d try something different the next time, that doesn’t necessarily mean a mistake was made this time. It might just mean that you also have some other ideas or possibilities).
* Reflect and discuss: How does this situation relate to your goals for this class, and/or your goals as an audiologist?

Grading for Reflections:

* \*\*These assignments must be satisfactorily completed in order to pass the course.
* Grades will be assigned as follows:
  + Meet all requirements by the deadline: 100%
  + Meet all requirements by 11:59 pm on the due date: 97%
  + Meet all requirements by 11:59 pm on the day after the due date: 91%
  + Meet all requirements by 11:59 pm two days after the due date: 85%
  + Meet all requirements by 9 am on the Monday following the due date: 75%
  + Meet all requirements by 9 am on the Tuesday following the due date: 50%
  + Meet all requirements after 9 am on the Tuesday following the due date: 0%; \*\*however, note that even if your grade is 0%, you still must submit reflections that meet the requirements in order to pass this course
* \*\*If you believe you have an excused reason to turn in a late assignment and not receive a grade penalty, please let me know as soon as possible.

Exams

There will be two in-class exams in addition to the final exam. All exams are closed-book and closed-notes. If you have any questions on an exam, feel free to ask me or the exam proctor; you are not permitted to consult with your classmates or anyone else.

The final exam will be comprehensive.

If you believe that you will need to make up an exam due to an excused absence, please ask me about the possibility of a make-up as soon as you are aware of the situation. If it is for a scheduled absence, such as a professional conference, you must make the request within the first two weeks of the semester, or as soon as your travel plans are known (which is typically at least 4-6 weeks in advance). Exams may only be made up for excused reasons such as illness, family emergency, professional conference, etc., and I will require documentation for the excused reason.

**Students with Disabilities:**

I would like to hear from anyone who has a disability and may require accommodations. Please contact me as soon as possible at the beginning of the semester.

**Religious Observances:**

I will accommodate religious beliefs according to UWS 22.03 if you notify me within the first three weeks of the semester regarding specific dates that you will need to change course requirements.

**Academic Misconduct:**

#### Information on the policies that apply to all UW System students and faculty regarding academic misconduct can be found at this UW-Madison website: <https://conduct.students.wisc.edu/misconduct/academic-integrity/>. You are also responsible for reviewing and understanding all of the information about avoiding plagiarism at this link, especially the information on successful and unsuccessful paraphrases: <https://writing.wisc.edu/handbook/assignments/quotingsources/>. *Plagiarism and/or cheating on any exam or assignment in this class may result in a reduced or failing grade for the cheated/plagiarized portion of the exam or assignment.*

#### Grading:

See the information on the separate handout, as well as on the next page.

Your final grade is determined by averaging your *percentage* (NOT total number of points) on the following components:

### Reflections (average of the two) 10%

Midterm exams 28% each

Final exam 34%

Grading Scale

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UW – SP** Letter Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | F |
| **Percentage** | 100-92 | 91.9-90 | 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 |
| **UW – Madison** Letter Grade | A | AB | | B | BC | | C | CD | | D | F |

**Objectives for Students:**

The following course objectives line up with the requirements of the American Speech-Language-Hearing Association (ASHA) for certification of audiologists, which also correspond to the expectations of the UW AuD program. The ASHA standards are available at <https://www.asha.org/Certification/2020-Audiology-Certification-Standards/>.

If a student fails to meet any or all ASHA standards for the course, the student will most likely be required to complete an improvement plan and/or re-do some assignments or portions of the course in order to meet the ASHA standards. These revisions/assignments/re-takes will not necessarily result in an improved course grade, but (if completed adequately) they will allow the instructor to sign off on the corresponding ASHA standard(s).

Course grades and ASHA competencies are related, but don’t necessarily exactly correspond to each other. Usually, if a student earns a passing grade on every course assignment, then that student will also meet the ASHA competencies for the course. It is possible, however, for a student to pass the course but not fully meet one or several individual ASHA competencies, especially if the student has not passed every assignment. On the other hand, some ASHA competencies are covered in multiple assignments; if this is the case, then it’s possible that a student may not meet a standard on one assignment, but may meet the standard on a different assignment. The instructor will notify any student who does not meet ASHA competencies. It is also highly recommended that any student who receives a less-than-passing grade on any assignment contact the instructor to discuss how the student can get back on track for passing the course and for meeting ASHA competencies.

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| **The student will demonstrate knowledge of. . .** | **Standard Fully or Partially Covered in this Course;**  **Knowledge vs. Skill Coverage** |
| A4. Principles, methods, and applications of acoustics, psychoacoustics, and speech perception, with a focus on how each is impacted by hearing impairment throughout the life span | Partial (knowledge-only standard) |
| A5. Calibration and use of instrumentation according to manufacturers’ specifications and accepted standards | Partial (knowledge-only standard) |
| A16. Principles and practices of client/patient/person/family-centered care, including the role and value of clients’/patients’ narratives, clinician empathy, and shared decision making regarding treatment options and goals | Partial (knowledge-only standard) |
| A18. The role, scope of practice, and responsibilities of audiologists and other related professionals | Partial (knowledge-only standard) |
| D4. Enhancing clients’/patients’ acceptance of and adjustment to hearing aids, hearing assistive technologies, and osseointegrated and other implantable devices | Partial knowledge |
| E1. Engaging clients/patients in the identification of their specific communication and adjustment difficulties by eliciting client/patient narratives and interpreting their and/or caregiver-reported measures | Partial knowledge |
| E3. Responding empathically to clients’/patients’ and their families’ concerns regarding communication and adjustment difficulties to establish a trusting therapeutic relationship | Partial knowledge |
| E8. Selecting and fitting appropriate amplification devices and assistive technologies | Partial knowledge |
| E9. Defining appropriate electroacoustic characteristics of amplification fittings based on frequency-gain characteristics, maximum output sound-pressure level, and input–output characteristics | Full knowledge |
| E10. Verifying that amplification devices meet quality control and American National Standards Institute (ANSI) standards | Full knowledge |
| E11. Conducting real-ear measurements to (a) establish audibility, comfort, and tolerance of speech and sounds in the environment and (b) verify compression, directionality, and automatic noise management performance | Full knowledge |
| E13. Conducting individual and/or group hearing aid orientations to ensure that clients/patients can use, manage, and maintain their instruments appropriately | Partial knowledge |
| E17. Identifying the need for—and fitting—electroacoustically appropriate hearing assistive technology systems (HATS) based on clients’/patients’ communication, educational, vocational, and social needs when conventional amplification is not indicated or provides limited benefit | Partial knowledge |

**Class Schedule**

The following is a tentative schedule that is subject to change. I will announce all changes in class. Exam dates are carefully scheduled with several factors in mind, so I would prefer not to change them. If you have multiple exams on the same day or week and would like to request a change, you must do so **no later than Monday, February 3, by 8 am.** Requests cannot be considered after that time. I will consider all requests made by the deadline, and I will ask for feedback from all members of the class. I cannot guarantee that I will be able to honor all requests.

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| **Day** | **Date** | **Topic** | **Required Text Reading (see Canvas for more required readings)** |
| W | Jan. 22 | Course overview & HA fitting process overview; HA styles | Dillon chpt. 1 |
| M | Jan. 27 | HA components, features, & troubleshooting | Dillon chpt. 2;  chpt. 4 pp. 121-25 ;  chpt. 3 pp. 56-68, 73-80, highlighted sections |
| W | Jan. 29 | HA components, features, & troubleshooting | Dillon chpt. 7, read all through top of p. 204, and then only highlighted sections |
| M | Feb. 3 | HA components, features, & troubleshooting |  |
| W | Feb. 5 | Electroacoustic measurement of HAs in the test box | Dillon chpt. 4 pp. 82-96 |
| M | Feb. 10 | Electroacoustic measurement of HAs in the test box |  |
| W | Feb. 12 | Electroacoustic measurement of HAs in the test box |  |
| M | Feb. 17 | Finish electroacoustic measurement;  Compression | Dillon chpt. 6;  chpt. 12 section 12.1.7 (pp. 362-365) |
| W | Feb. 19 | Compression | Dillon chpt. 6;  chpt. 12 section 12.1.7 (pp. 362-365) |
| **M** | **Feb. 24** | **Exam I** |  |
| W | Feb. 26 | Compression |  |
| **M** | **March 2** | Compression  **First reflection due by 1 pm** |  |
| W | March 4 | Finish compression?  Start verification & probe microphone measurements? | Dillon chpt. 4 pp. 97-118 |
| M | March 9 | Verification & probe microphone measurements |  |
| W | March 11 | Verification & probe microphone measurements |  |
| **M** | **March 16** | **Spring break** |  |
| **W** | **March 18** | **Spring break** |  |
| **M** | **March 23** | Verification & probe microphone measurements |  |
| **W** | **March 25** | **Exam II** |  |
| **M** | **March 30** | **No class meeting: view recorded lectures on earmold & earshell acoustics** | Dillon chpt. 5 |
| **W** | **April 1** | **No class (AAA): view recorded lectures on earmold & earshell acoustics** | Dillon chpt. 5 |
| M | April 6 | Finish verification & probe microphone measurements?  Start fitting strategies / prescriptive procedures? | Dillon chpt. 10 |
| W | April 8 | Fitting strategies / prescriptive procedures | Dillon chpt. 10 |
| M | April 13 | Fitting strategies / prescriptive procedures |  |
| W | April 15 | Fitting strategies / prescriptive procedures |  |
| **M** | **April 20** | Fitting strategies / prescriptive procedures  Start feedback & feedback management?  **Second reflection due by 1 pm** | Dillon chpt. 4 pp. 118-121;  Dillon chpt. 8 pp. 234-239 |
| W | April 22 | Feedback and feedback management | Dillon chpt. 4 pp. 118-121;  Dillon chpt. 8 pp. 234-239 |
| M | April 27 | Feedback and feedback management |  |
| W | April 29 | HA candidacy, selection, fitting, & fine-tuning | Dillon chpts. 9 & 12; chpt. 11 pp. 337-350 |
| **Tentative: Monday May 4, 1-3?? Final date/time TBD** | | **Final Exam** |  |