

Term Information

Effective Term Spring 2024
Previous Value Autumn 2013

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Add offering of the course by distance learning (DL).

What is the rationale for the proposed change(s)?

The Speech and Hearing Science department has been increasing its DL offerings in service of an eventual DL path through the undergraduate BA program. This is a required course for the BA.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

Offering this course by DL will advance the BA program closer to having a full DL offering. In the short term, there will be no curricular impact, but a proposal for a DL BA program path will be coming in the 23-24 academic year.

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

| | |
|--------------------------------------|--|
| Course Bulletin Listing/Subject Area | Speech and Hearing Science |
| Fiscal Unit/Academic Org | Speech & Hearing - D0799 |
| College/Academic Group | Arts and Sciences |
| Level/Career | Undergraduate |
| Course Number/Catalog | 4440 |
| Course Title | Anatomy, Physiology, and Science of Hearing |
| Transcript Abbreviation | Hrng Sci/Anat/Phys |
| Course Description | The anatomical properties and physiological processes of the system of hearing and balance in humans and the stimulus processing capabilities of the normal auditory system. |
| Semester Credit Hours/Units | Fixed: 3 |

Offering Information

| | |
|--|---------------------|
| Length Of Course | 14 Week, 12 Week |
| Flexibly Scheduled Course | Never |
| Does any section of this course have a distance education component? | Yes |
| Is any section of the course offered | 100% at a distance |
| <i>Previous Value</i> | <i>No</i> |
| Grading Basis | Letter Grade |
| Repeatable | No |
| Course Components | Lecture, Recitation |
| Grade Roster Component | Lecture |
| Credit Available by Exam | No |
| Admission Condition Course | No |
| Off Campus | Never |

Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites

Prereq: 3340 or equiv, and Biology 1101, 1102, 1113, or 1114; or permission of instructor.

Previous Value

Prereq: 3340 (340) or equiv, and Biology 1101 (101), 1102 (102), 1113 (113), or 1114 (114); or permission of instructor.

Exclusions

Previous Value

Not open to students with credit for 440.

Electronically Enforced

No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code

51.0201

Subsidy Level

Baccalaureate Course

Intended Rank

Sophomore, Junior, Senior

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

Course Details

Course goals or learning objectives/outcomes

- Students will have a basic understanding of how sound energy is transduced to mechanical energy by the conductive auditory system.
- Students will understand how the cochlea transduces sound energy into electro-chemical signaling of the nervous system.
- Students will understand the retrocochlear auditory system's functions and contributions to hearing.
- Students will have a basic understanding of how the brain processes the different fundamental properties of sounds.
- *Be able to diagram the human auditory system*
- *Be able to identify the functions of the major components of the human auditory system*
- *Be able to define the basic parameters in the measurement of human audition*

Previous Value

Content Topic List

- Anatomical characteristics of human hearing and balance
- Physiological characteristics of human hearing and balance
- Auditory perception

Sought Concurrence

No

COURSE CHANGE REQUEST
4440 - Status: PENDING

Last Updated: Vankeerbergen, Bernadette
Chantal
03/08/2023

Attachments

- SPHHRNG 4440 DL syllabus.docx: DL syllabus
(Syllabus. Owner: Bielefeld, Eric Charles)
- SPHHRNG 4440 SP23 Syllabus v1.docx: In-person syllabus
(Syllabus. Owner: Bielefeld, Eric Charles)
- SPHHRNG 4440 DL cover sheet - signed by ASC Tech.pdf: ASC Tech cover sheet
(Other Supporting Documentation. Owner: Bielefeld, Eric Charles)

Comments

Workflow Information

| Status | User(s) | Date/Time | Step |
|------------------|--|---------------------|------------------------|
| Submitted | Bielefeld, Eric Charles | 02/22/2023 10:32 AM | Submitted for Approval |
| Approved | Fox, Robert Allen | 02/25/2023 01:23 PM | Unit Approval |
| Approved | Vankeerbergen, Bernadette Chantal | 03/08/2023 02:14 PM | College Approval |
| Pending Approval | Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Hilty, Michael Vankeerbergen, Bernadette Chantal Steele, Rachel Lea | 03/08/2023 02:14 PM | ASCCAO Approval |



THE OHIO STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

SYLLABUS: SPHHRNG 4440 ANATOMY, PHYSIOLOGY, AND SCIENCE OF HEARING SPRING 2024 3.0 CREDIT HOURS

Course overview

Instructor

Instructor: Eric Bielefeld
Email address: bielefeld.6@osu.edu
Office hours: flexible by appointment
Office Location: Zoom, URL TBD

Class Meeting Schedule:

Element 1: Weekly asynchronous recorded Mediasite lectures posted on Tuesdays and Thursdays.

Element 2: Weekly synchronous Zoom meeting on Tuesdays at 1:00-2:00 PM.

Course description

This course is designed to provide students with an introduction to the anatomy and physiology of the human auditory system and the science of hearing and auditory perception. This is a required course for students majoring in Speech and Hearing Science.

Course management

The course will consist of asynchronous recorded lectures of roughly 50-60 minutes in duration. Most weeks will consist of two recordings posted, unless there is a holiday that week on the Monday or Wednesday. On Tuesdays from 1:00-2:00 PM, we will have a live Zoom meeting to expand upon the content included in the recorded lectures and discuss any related

materials or questions and answers. Attendance is optional but greatly encouraged. Summative assessment will consist of weekly quizzes and exams.

Course learning outcomes

- 1) Students will have a basic understanding of how sound energy is transduced to mechanical energy by the conductive auditory system.
 - a. Students will be able to articulate the key physical properties of sound that are processed in the peripheral auditory system.
 - b. Students will be able to name and identify the key pieces of outer and middle ear anatomy.
 - c. Students will be able to describe how sound is transduced through the conductive auditory system.
- 2) Students will understand how the cochlea transduces sound energy into electro-chemical signaling of the nervous system.
 - a. Students will be able to identify the key structures and organization of the cochlea.
 - b. Students will know how the basilar membrane is organized in terms of frequency.
 - c. Students will be able to describe the steps of mechanical processing of the cochlea.
 - d. Students will be able to describe how the metabolic properties of the cochlea are organized for transduction of mechanical energy into electro-chemical.
 - e. Students will be able to describe the ramifications of injury to the cochlea on hearing.
- 3) Students will understand the retrocochlear auditory system's functions and contributions to hearing.
 - a. Students will be able to articulate the structure and organization of the auditory nerve.
 - b. Students will be able to describe the efferent pathways in the auditory system and how they contribute to hearing.
 - c. Students will be able to identify the key central auditory tracts and nuclei.
 - d. Students will be able to describe the function of the vestibular system in the inner ear.
- 4) Students will have a basic understanding of how the brain processes the different fundamental properties of sounds.
 - a. Students will be able to define the concept of psychoacoustics and be able to discern the differences between auditory physiology and behavior.
 - b. Students will be able to describe auditory processing of frequency, temporal, and intensity cues.
 - c. Students will be able to describe how the auditory system localizes sound sources.

How this Online course works

Mode of delivery: This course is 100% online. There will be a mix of asynchronous recorded lectures and synchronous sessions when you must be logged in to Carmen at a scheduled time (Tuesdays 1:00-2:00 PM).

Pace of online activities: This course is divided into **weekly modules** that are released one week ahead of time. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame. Students are encouraged to work at a pace that best fits their learning and schedule while completing assignments as directed on the syllabus. Students are responsible for communicating any questions or concerns about the material presented in a timely manner.

Credit hours and work expectations: This is a **3-credit-hour course**. According to Ohio State policy (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average. The three hours of direct instruction will consist of 50 minutes of synchronous meeting per week, 20 minutes for quiz completion, and 1 hour, 50 minutes of asynchronous recorded lectures per week.

Student participation requirements

Because this is a distance-education course, your attendance is based on your online activity and participation. The following is a summary of everyone's expected participation:

- **Logging in: AT LEAST ONCE PER WEEK**
Be sure you are logging in to the course in Carmen each week, including weeks with holidays or weeks with minimal online course activity. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.
- **Office hours and live sessions: OPTIONAL OR FLEXIBLE**
All live, scheduled events for the course, including my office hours, are optional. That said, the Zoom synchronous meetings will introduce the clinical and applied concepts from the material in the asynchronous lectures. Therefore, attendance and participation are encouraged for all students. However, failure to attend/participate will not have a negative effect on your grade. I will provide a recording that you can watch later, but live participation is encouraged and will provide you with the best learning experience in the course.

Course materials

Recommended text:

Lass, N.J., and Donai, J.J. (2021). [Hearing Science Fundamentals, 2nd edition](#). San Diego: Plural Publishing.

This text is not required for the course, but is a good source of information and will do a great job of supplementing the material covered in class. It may be a good idea to buy or rent if you're planning to go to grad school for audiology, hearing science, or linguistics.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenZoom audio and video chat
- Playing a slide presentation with audio narration

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Grading and faculty response

Grades

| Assignment or category | Points |
|-------------------------------|-------------------------|
| 10 Weekly Quizzes | 10 pts each =80 points |
| Weekly discussion board posts | 10 pts each =120 points |
| Midterm 1 | 100 pts |
| Midterm 2 | 100 pts |
| Final exam | 100 pts |
| Total | 500 points |

See course schedule, below, for due dates

Assignment information

Description of the quizzes: Weekly quizzes on Carmen will be conducted in all weeks except those with a midterm exam scheduled. They will be held on Thursdays during the week, and will consist of 5-10 questions on the topics of the previous two lectures. Students will have 20 minutes to complete each quiz.

Academic integrity and collaboration: You must complete the quizzes yourself, but you are free to access resources (notes, textbook) to help you produce your answers.

Description of the exams: The three exams (two mid-terms and a final) will consist of a mix of multiple choice and short answer questions, and will be timed to 80 minutes per exam.

Academic integrity and collaboration: You must complete the exams yourself, without any external help or communication with other students. The exams are not open-book/open-note, and no external materials should be used to assist you with your answers.

For the quizzes and exams, students will have a 12-hour window 9:00 AM to 9:00 PM in which to complete the quiz or exam. Once the quiz/exam is started, it will be timed to the 20- or 90-minute time limit.

Description of the discussion posts

There will be twelve discussion posts throughout the semester. Some of these will require you to read a short article from a hearing/audiology magazine, watch a YouTube video, or listen to a podcast, and respond to it via the discussion boards on Carmen. Your post can take many

different forms, but it should demonstrate that you're engaging with the material. For each reading, I will provide some questions to get you thinking – you are welcome to answer these or respond in a different way (but you should avoid simply summarizing the article). Discussion posts could be questions or comments you had about the material, areas where you disagree with the conclusions drawn by authors, directions for future research, connections you see with your own life or experiences, etc. You should aim for 200 words or so, but length is less important than substance. Discussion boards will be available on Carmen one week prior to the deadline and posts must be submitted to the discussion board by 11:59pm on the due date.

Academic integrity and collaboration: You must complete the exams yourself, without any external help or communication with other students. The exams are not open-book/open-note, and no external materials should be used to assist you with your answers.

Late assignments

Absence and Makeup Policy: Quizzes and exams are due by 9:00 PM on the listed due date, and no late submissions will be accepted without appropriate explanation and documentation. Any medical or other reasons for late assignments must be approved by the instructor prior to the Quiz/Exam.

Grading scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-
67–69.9: D+
60–66.9: D
Below 60: E

Faculty feedback and response time

Email Response: The instructor will email you back within 8 hours during the week, and within 24 hours on weekends/holidays.

Graded Materials Return: Quizzes will be graded by the end of the submission date. Exams will be scored and grades reported within 7 days after the Exam date.

Other course policies

Student academic services

Student academic services offered on the OSU main campus
<http://advising.osu.edu/welcome.shtml>.

Student support services

Student support services offered on the OSU main campus <http://ssc.osu.edu>.

Academic integrity policy

Policies for this online course

- **Quizzes and exams:** You must complete the midterm and final exams yourself, without any external help or communication. Quizzes are not permitted to use student collaboration, but the student is free to utilize resources from the course (notes, textbook) to answer quiz questions.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.

Ohio State's academic integrity policy:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

If I suspect that a student has committed academic misconduct in this course, I am obligated by university rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the university's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the university.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- Committee on Academic Misconduct web page (go.osu.edu/coam)
- Ten Suggestions for Preserving Academic Integrity (go.osu.edu/ten-suggestions)

Statement on title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Mental health statement

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Statement on Diversity

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential.

Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Statement on Inclusive Practices in this Course

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit odi.osu.edu/religious-accommodations.

Course schedule

| <u>Module #</u> | <u>Posting Date</u> | <u>Topic</u> | <u>Readings</u> | <u>Learning Outcomes</u> |
|-----------------|---------------------|--------------|-----------------|--------------------------|
|-----------------|---------------------|--------------|-----------------|--------------------------|

| | | | | |
|----|------|---|----------------|------------|
| 1 | 1/10 | Introduction and acoustics review <i>Zoom meeting 1</i> | HSF: Chapter 2 | 1a |
| 2 | 1/12 | Speech acoustics and the auditory system | HSF: Chapter 2 | 1a |
| 3 | 1/17 | Outer ear <i>Zoom meeting 2</i> | HSF: Chapter 4 | 1b, 1c |
| 4 | 1/19 | Middle ear <i>Quiz 1 on Classes 1 and 2</i> | HSF: Chapter 4 | 1b, 1c |
| 5 | 1/24 | Inner ear <i>Zoom meeting 2</i> <i>Discussion board post 1</i> | HSF: Chapter 4 | 2a |
| 6 | 1/26 | Basilar membrane part 1 <i>Quiz 2 on Classes 3 and 4</i> | | 2a, 2b, 2c |
| 7 | 1/31 | Basilar membrane part 2 <i>Zoom meeting 3</i> <i>Discussion board post 2</i> | | 2a, 2b, 2c |
| 8 | 2/2 | Inner ear transduction Part 1 <i>Quiz 3 on Classes 5 and 6</i> | HSF: Chapter 5 | 2c,2d |
| 9 | 2/7 | Inner ear transduction Part 2 <i>Zoom meeting 4</i> <i>Discussion board post 3</i> | HSF: Chapter 5 | 2c,2d |
| 10 | 2/9 | Exam 1 on topics 1-9 | | |
| 11 | 2/14 | Neuronal transduction and auditory sensitivity <i>Zoom meeting 5</i> <i>Discussion board post 4</i> | | 2c,2d |
| 12 | 2/16 | Auditory nerve | | 3a |

| | | | | |
|----|---------------|---|---------------------------------|--------|
| | | No Quiz this week | | |
| 13 | 2/21 | Efferent auditory pathways Zoom meeting 6 Discussion board post 5 | | 3b |
| 14 | 2/23 | Central auditory system Part 1 Quiz 4 on Classes 11 and 12 | HSF: Chapter 6 | 3c |
| 15 | 2/28 | Central auditory system Part 2 Zoom meeting 7 Discussion board post 6 | HSF: Chapter 6 | 3c |
| 16 | 3/2 | Vestibular system Part 1 Quiz 5 on Classes 13 and 14 | | 3d |
| 17 | 3/7 | Vestibular system Part 2 Zoom meeting 8 Discussion board post 7 | | 3d |
| 18 | 3/9 | Exam 2 on topics 11-17 | | |
| | 3/14- 3/16 | No Class- Spring Break | | |
| 19 | 3/21 | Auditory detection Zoom meeting 9 Discussion board post 8 | HSF: Chapter 7 pages 147-159 | 4a, 4b |
| 20 | 3/23 | Masking and discrimination No Quiz this week | HSF: Chapter 9 | 4a, 4b |
| 21 | 3/28 | Speech in noise Zoom meeting 10 Discussion board post 9 | HSF: Chapter 10 | 4a, 4b |
| 22 | 3/30 | Temporal processing Quiz 6 on Classes 21 and 22 (available 3/29-4/2) | | |
| 23 | 4/4 | Sound localization | | |

| | | | | |
|----------------|------|---|-------------------------|--------|
| | | <p style="text-align: center;">Zoom meeting 11 Discussion board post 10</p> | HSF: Chapter 8 | 4a, 4b |
| 24 | 4/6 | <p style="text-align: center;">Pitch and loudness Quiz 7 on Class 23 and 24</p> | HSF: Chapter 11 | 4a, 4b |
| 25 | 4/11 | <p style="text-align: center;">Abnormal auditory system Zoom meeting 12 Discussion board post 11</p> | HSF: Chapters 15- 16 | 2e, 3e |
| 26 | 4/13 | <p style="text-align: center;">Auditory restoration Part 1 Quiz 8 on Classes 25 and 26</p> | | 2e, 3e |
| 27 | 4/18 | <p style="text-align: center;">Auditory restoration Part 2 Zoom meeting 13 Discussion board post 12</p> | | 2e, 3e |
| 28 | 4/20 | <p style="text-align: center;">Bonus Zoom meeting to prep for Final Exam – time TBD</p> | | |
| Finals week | 4/27 | <p style="text-align: center;">Final exam covering topics 19-27</p> | | |

ANATOMY, PHYSIOLOGY, AND SCIENCE OF HEARING
 SPHHRNG 4440
 TU/TH 3:55-5:15PM, JOURNALISM BUILDING 270
 SPRING 2023

| | | | |
|-------------------|---------------------------|---------------------|--|
| Instructor | Victoria Sevich (she/her) | Office | Derby Hall Rm 20/Pressey Hall Rm 110A |
| Email | Sevich.1@osu.edu | Office hours | Mondays from 11am-12p on Zoom or by appointment (in person or on Zoom) |

COURSE DESCRIPTION

This course is designed to provide an introduction to the anatomy and physiology of the structures implicated in human hearing. We will also take a moderately-deep dive into the science and psychology of normal and abnormal hearing and auditory perception.

COURSE OBJECTIVES

- 1) Students will have a basic understanding of how sound energy is transduced to mechanical energy by the conductive auditory system.
 - a. Students will be to articulate the key physical properties of sound that are processed in the peripheral auditory system.
 - b. Students will be able to name and identify the key pieces of outer and middle ear anatomy.
 - c. Students will be able to describe how sound is transduced through the conductive auditory system.
- 2) Students will understand how the cochlea transduces sound energy into electro-chemical signaling of the nervous system.
 - a. Students will be able to identify the key structures and organization of the cochlea.
 - b. Students will know how the basilar membrane is organized in terms of frequency.
 - c. Students will be able to describe the steps of mechanical processing of the cochlea.
 - d. Students will be able to describe how the metabolic properties of the cochlea are organized for transduction of mechanical energy into electro-chemical.
 - e. Students will be able to describe the ramifications of injury to the cochlea on hearing.
- 3) Students will understand the retrocochlear auditory system’s functions and contributions to hearing.
 - a. Students will be able to articulate the structure and organization of the auditory nerve.
 - b. Students will be able to describe the efferent pathways in the auditory system and how they contribute to hearing.
 - c. Students will be able to identify the key central auditory tracts and nuclei.
 - d. Students will be able to describe the function of the vestibular system in the inner ear.
- 4) Students will have a basic understanding of how the brain processes the different fundamental properties of sounds.
 - a. Students will be able to define the concept of psychoacoustics and be able to discern the differences between auditory physiology and behavior.
 - b. Students will be able to describe auditory processing of frequency, temporal, and intensity cues.
 - c. Students will be able to describe how the auditory system localizes sound sources.

MODE OF DELIVERY

This course will be delivered in person. We will have in-person class sessions at the scheduled class times. All course materials can be found on our Carmen page. All lectures will be recorded and posted to Carmen after class. Office hours will be held Mondays on Zoom and by appointment either in person or virtually on Zoom.

RECOMMENDED TEXTS

- 1) Lass, N.J., and Donai, J.J. (2021). [Hearing Science Fundamentals, 2nd edition](#). San Diego: Plural Publishing.

This text is not required for the course, but is a good source of information and will do a great job of supplementing the material covered in class. It may be a good idea to buy or rent if you're planning to go to grad school for audiology, hearing science, or linguistics.

- 2) Nović, S. (2022). [True Biz](#). London, UK: Little, Brown.

This novel is also not required, but several discussion posts will be based on content from the novel. You may choose not to do these assignments; if so, no need to get the book. If you do choose to get the book and complete these assignments, you can get a hard copy (the paperback version comes out in February), an e-book, or an audio version of the book. However, I will be creating discussion post questions based on page numbers in the hardcover version of the book/chapter numbers in the e-book, so I'd probably recommend one of those two options.

Additional readings and media will be provided on Carmen.

ASSESSMENT

Grades in this class are additive. If you want an A, you need to earn at least 800 points. How you go about earning those points is up to you.

You will notice that, collectively, exams are worth 600 points. This means that, if you perform perfectly on all three exams, you will need 200 additional points to reach 800, if your goal is to get an A in the course. You have the flexibility to choose how to gain those additional points. As another example, if you average 80% on all three exams, you will earn approximately 480 points from the exams. This means that you will need 320 additional points to reach 800. The goal of this system is to provide opportunities to "make up" points if you aren't a good test taker, had a bad exam score, etc. This will require more work on your part, but my hope is that the assignments will help you learn and retain the material in ways that supplement studying for an exam.

If you add up all the points available, you will notice that the total exceeds 1000. As you demonstrate mastery of the material on various assignments, you earn points towards your final grade. The result of this system is that ***most of the assignments in this course are effectively optional, with the exception of the three exams***. That is, you will have many different opportunities to demonstrate mastery of core concepts. No need to panic or ask me about a makeup if you miss a discussion post, for example (barring extenuating circumstances). You can earn the points another way, so just look for another assignment to do.

I do my best to provide prompt and useful feedback on your assignments. If you get something wrong and don't understand why, please come talk to me, and I'd be happy to elaborate. Because this isn't a system

where you are penalized for messing up, in general, the more work you put in, the more points you will earn, and the better your overall grade will be.

Because there are several opportunities to get more points than you actually need in this class, I don't round grades.

| COMPONENTS | NUMBER OF OPPORTUNITIES | POINTS PER ASSIGNMENT | TOTAL POINTS AVAILABLE |
|-----------------------------------|-------------------------|-----------------------|------------------------|
| Exams | 3 | 200 | 600 |
| Quizzes | 12 | 10 | 180 |
| Research article summaries | 3 | 30 | 90 |
| Discussion posts | 12 | 15 | 180 |
| Participation | 6 | 5 | 30 |
| Total | | | 1020 |

GRADE BREAKDOWN

| GRADE | POINTS NEEDED |
|-------|---------------|
| A | 800+ |
| A- | 770-799 |
| B+ | 740-769 |
| B | 700-739 |
| B- | 670-699 |
| C+ | 640-669 |
| C | 600-639 |
| C- | 570-599 |
| D+ | 540-569 |
| D | 500-539 |
| E | < 500 |

DESCRIPTION OF ASSIGNMENTS

Exams

There will be a total of three exams during the course – two during the semester and one during finals week. Each will cover material presented during that section of the course. While none of the exams are cumulative, per se, the content of this course builds on itself, so I will still expect you to maintain a basic understanding of content from prior units for each exam. Exams will be comprised of some combination of multiple choice, matching, fill-in-the-blank, true/false, and short essay questions. Exams will be held in person in our regular classroom at our regular class time, with the exception of the exam during finals week (same place, different time; see course schedule below for details). You should plan to bring writing utensils with you to class on exam days, and I will provide the paper exams and scratch paper if needed. Exams must be taken on the designated exam day unless otherwise determined by the instructor *prior to* the exam time.

Quizzes

There will be twelve quizzes throughout the semester. For each quiz, I will ask a handful of questions (between 2-5) that will assess your understanding of course content and help me to identify topics that we need to review or clarify in class. These quizzes are open-book, open-notes, and open-internet; feel free to use whatever resources you have available to you and work with your classmates. There is no time limit. Quizzes will become available on Carmen one week prior to the deadline and must be submitted by 11:59pm on the due date.

Research article summaries

There will be three research article summary assignments in the course - one per unit. For each assignment, I will provide several different papers for you to choose from. I will provide a template on Carmen for each summary assignment with specific questions for you to answer. These are intended to give you experience with reading research papers in the field and help you to identify the most important pieces of them. Reading research is hard; I don't expect you to understand everything in every article. I do, however, expect you to show me that you've engaged with the reading, described key points, and identified parts that you had trouble understanding. Research article summaries will become available at the beginning of each unit and must be submitted via Carmen by 11:59 pm on the due date.

Discussion posts

There will be twelve discussion posts throughout the semester. Some of these will require you to read a short article from a hearing/audiology magazine, read a section of True Biz, watch a YouTube video, or listen to a podcast, and respond to it via the discussion boards on Carmen. Your post can take many different forms, but it should demonstrate that you're engaging with the material. For each reading, I will provide some questions to get you thinking – you are welcome to answer these or respond in a different way (but you should avoid simply summarizing the article). Discussion posts could be questions or comments you had about the material, areas where you disagree with the conclusions drawn by authors, directions for future research, connections you see with your own life or experiences, etc. You should aim for 200 words or so, but length is less important than substance. Discussion boards will be available on Carmen one week prior to the deadline and posts must be submitted to the discussion board by 11:59pm on the due date.

Participation

Being an active participant in the classroom is important for you and for the instructor. The more active you are in class, the more you stand to learn. I will occasionally ask students to complete in-class activities on arbitrary days. These activities may consist of answering short questions for participation points. These questions may be quite general, e.g. "What is a question you still have about the material?" or may be more specific to the content at hand. You will submit these on Carmen during class, so please plan to bring a laptop or other electronic device to class regularly (contact me *in advance* if this will be a problem). The bulk of participation points will come from either completing in-class activities or doing brief surveys, like the get-to-know-you student survey, on Carmen.

ARTICLES FOR RESEARCH ARTICLE SUMMARIES

Unit 1 (3 options; choose 1)

1. Brown, V. A., van Engen, K. J., & Peelle, J. E. (2021). Face mask type affects audiovisual speech intelligibility and subjective listening effort in young and older adults. *Cognitive Research: Principles and Implications*, 6(1), 1-12.
2. Ertmer, D. J. (2010). Relationships between speech intelligibility and word articulation scores in children with hearing loss. *Journal of Speech, Language, and Hearing Research*, 53, 1075–1086.
3. Massaro, D. W., & Light, J. (2004). Using visible speech to train perception and production of speech for individuals with hearing loss. *Journal of Speech, Language, and Hearing Research*, 47(April), 304–320.

Unit 2 (3 options; choose 1)

1. Classon, E., Löfkvist, U., Rudner, M., & Rönnerberg, J. (2014). Verbal fluency in adults with postlingually acquired hearing impairment. *Speech, Language and Hearing*, 17(2), 88–100.
2. Freeman, V. (2018). Speech intelligibility and personality peer-ratings of young adults with cochlear implants. *Journal of Deaf Studies and Deaf Education*, 23(1), 41–49.
3. Rossi, N. A., Devarajan, K., Chokshi, S. N., Ochoa, V. J., Benavidez, M., Malaya, L. T., Ohlstein, J. F., Young, D. L., & McKinnon, B. J. (2023). Social Media Depictions of Cochlear Implants: An Instagram and TikTok Analysis. *Otology*, 44(1), e13–e21.

Unit 3 (several options; choose 1). Note that these articles were all written by at least one faculty member currently at Ohio State. If you're interested in getting involved in research, identifying a faculty member whose research interests you is a good place to start!

1. Baese-Berk, M. M., Dilley, L. C., Schmidt, S., Morrill, T. H., & Pitt, M. A. (2016). Revisiting Neil Armstrong's moon-landing quote: Implications for speech perception, function word reduction, and acoustic ambiguity. *PLoS ONE*, 11(9), 1–11.
2. DeBacker, J. R., Harrison, R. T., & Bielefeld, E. C. (2020). Cisplatin-induced threshold shift in the CBA/CaJ, C57BL/6J, BALB/cJ mouse models of hearing loss. *Hearing Research*, 387, 107878.
3. Dossey, E., Clopper, C. G., & Wagner, L. (2020). The Development of Sociolinguistic Competence across the Lifespan: Three Domains of Regional Dialect Perception. *Language Learning and Development*, 16(4), 330–350.
4. Holt, R. F., Beer, J., Kronenberger, W. G., Pisoni, D. B., & Lalonde, K. (2012). Contribution of family environment to pediatric cochlear implant users' speech and language outcomes: Some preliminary findings. *Journal of Speech Language and Hearing Research*, 55(June), 848–864.
5. Kronenberger, W. G., Beer, J., Castellanos, I., Pisoni, D. B., & Miyamoto, R. T. (2014). Neurocognitive risk in children with cochlear implants. *JAMA Otolaryngology - Head and Neck Surgery*, 140(7), 608–615.
6. Roup, C. M., Wiley, T. L., & Wilson, R. H. (2006). Dichotic word recognition in young and older adults. *Journal of the American Academy of Audiology*, 17(4), 230–240.

POLICIES

Submissions

Students are responsible for ensuring that their assignments are submitted and that the files they upload for submissions are readable. You are encouraged to review the submission details in Carmen to verify that your submission is readable. Students will receive no points for files that are corrupted, not readable, or not the correct assignment, regardless of whether they are submitted by the assignment deadline.

Late work

Discussion posts, quizzes, and research article summaries must be turned in by 11:59pm on the due date. Barring extenuating circumstances, late work will not be accepted, since there are many opportunities to earn more points in the class than you actually need. In extenuating circumstances, the instructor makes the final judgment. Come to office hours or reach out to me by email if you have questions or are struggling with the assignments.

Collaboration

Exams are to be done without any collaboration. Violation of this policy would be academic misconduct. For the research article summaries, quizzes, and discussion board posts, you are encouraged to work with one another by discussing ideas and reactions to the articles/topics. Students may discuss the content of the assignments and discuss ways of completing them. However, every student should type up their own response in their own words. Exact copying of other students or other sources will be considered plagiarism and academic misconduct.

Attendance, Health

I am not taking formal attendance. If you have other commitments, you are responsible for managing them. That said, I really want to see you show up for class, and I do notice who shows up. This course will cover a lot of material, and it will not be to your advantage to miss class. This class is structured so that you will learn the most if you attend and actively participate. Attending class will also be the only way to get credit for in-class activities. If you are late, come in quietly and respectfully. I encourage you to attend class when you are healthy so that you can take sick days when needed. You are responsible for all material missed. If you are not able to attend class regularly, reach out to [Student Life Disability Services](#) now. If during the semester you find yourself in extenuating circumstances (family, mental or physical health, etc.), let me know, and we will work out a solution.

Blurbs and University-wide Policies

ACADEMIC MISCONDUCT

Your assignments should be your own original work. In written assignments, you should follow [APA style](#) to cite the ideas and words of your sources. You are welcome to ask a trusted person to proofread your assignments before you turn them in, but no one else should revise or rewrite your work.

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

HEALTH AND SAFETY REQUIREMENTS

Reminder: All teaching staff and students are required to comply with university safety and health guidance. Review guidelines at Safe and Healthy Buckeyes (<https://safeandhealthy.osu.edu/>).

STUDENTS WITH DISABILITIES

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's [request process](#), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

DIVERSITY

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

TITLE IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu

ADDITIONAL RESOURCES

The Writing Center - <https://cstw.osu.edu/our-programs/writing-center>

The Writing Center offers free help with writing at any stage of the writing process for any member of the university community. During sessions, consultants can work with you on anything from research papers to lab reports, from dissertations to résumés, from proposals to application materials. You may schedule an appointment by visiting WCOOnline or by calling 614-688-4291. You do not have to bring in a piece of writing in order to schedule a writing center appointment. Many students report that some of their most productive sessions entail simply talking through ideas. Please check out Individual Writing Support and

Group Writing Support pages for the types of consultations provided. They also maintain a Writing Resources page with writing handouts and links to online resources.

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling [614-292-5766](tel:614-292-5766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at [614-292-5766](tel:614-292-5766) and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org.

Dennis Learning Center - <http://dennislearningcenter.osu.edu/>

The DLC applies their expertise in education, psychology, instruction, and technology to provide outreach that includes elective courses, workshops, and individual academic coaching. They help students flourish by providing assistance in areas that include motivation, academic stress, procrastination, study skills, time management, test taking, learning from text, note taking, and self-regulation.

APA Citation and Style Guides

<https://www.apastyle.org/index>

https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_for_mat.html

SMART Lab - <https://u.osu.edu/smartlab/schedule/>

Our mission in the SMART Lab is to teach and research the efficacy of stress management and resiliency skills with students at Ohio State. (They offer both online and in person services including group meditation, guided mindfulness and biofeedback.)

| Week | Date | Topics | Readings | Due Today (11:59pm) |
|---------|-----------------------------|--|--------------------------------------|--------------------------|
| Week 1 | 1/10 (T) | Introduction and acoustics review | HSF: Chapter 2 | |
| | 1/12 (R) | Speech acoustics and the auditory system | | Discussion post 1 |
| Week 2 | 1/17 (T) | Outer ear | HSF: Chapter 4 | Intro survey Quiz 1 |
| | 1/19 (R) | Middle ear | | Discussion post 2 |
| Week 3 | 1/24 (T) | Inner ear | | Quiz 2 |
| | 1/26 (R) | Basilar membrane | TB: Chapters 1-12 (book pp. 1-70) | Discussion post 3 (TB) |
| Week 4 | 1/31 (T) | | | Quiz 3 |
| | 2/2 (R) | Inner ear transduction | HSF: Chapter 5 | Discussion post 4 |
| 2/7 (T) | Quiz 4 Article summary 1 | | | |
| Week 5 | 2/9 (R) | Exam 1 | | |
| | 2/14 (T) | Neuronal transduction and auditory sensitivity | | Quiz 5 |
| Week 6 | 2/16 (R) | Auditory nerve | TB: Chapters 13-24 (book pp. 71-153) | Discussion post 5 (TB) |
| | 2/21 (T) | Efferent auditory pathways | | Quiz 6 |
| Week 7 | 2/23 (R) | Central auditory system | HSF: Chapter 6 | Discussion post 6 |
| | 2/28 (T) | | | Midterm survey Quiz 7 |

| | | | | |
|---|----------|----------------------------|--|---|
| 8 | 3/2 (R) | Vestibular system | TB: Chapters 25-35 (book pp. 163-213) | Discussion post 7 (TB) |
| Week | 3/7 (T) | | | Quiz 8 Article summary 2 |
| 9 | 3/9 (R) | Exam 2 | | |
| SPRING BREAK: MON. 3/13–FRI. 3/17 | | | | |
| Week | 3/21 (T) | Auditory detection | HSF: Chapter 7 (pp. 147-159) | |
| 10 | 3/23 (R) | Masking and discrimination | HSF: Chapter 9 | Discussion post 8 |
| Week | 3/28 (T) | Speech in noise | | Quiz 9 |
| 11 | 3/30 (R) | Temporal processing | HSF: Chapter 10 TB: Chapters 36-50 (book pp. 214-307) | Discussion post 9 (TB) |
| Week | 4/4 (T) | Localization | HSF: Chapter 7 (pp. 160-165); Chapter 8 (pp. 175-187) | Quiz 10 |
| 12 | 4/6 (R) | Pitch and loudness | HSF: Chapter 11 | Discussion post 10 |
| Week | 4/11 (T) | Abnormal auditory system | HSF: Chapters 15-16 | Quiz 11 |
| 13 | 4/13 (R) | Auditory restoration | TB: Chapters 51-60 (book pp. 308-356) | Discussion post 11 (TB) |
| Week | 4/18 (T) | | | Quiz 12 Article summary 3 |
| 14 | 4/20 (R) | Semester wrap up/review | TB: Chapters 61-67; Author's note (book pp. 357-384) | Final survey Discussion post 12 (TB) |
| Exam 3: Monday, May 1st; 6:00-7:45pm in Journalism Building 270 | | | | |

Distance Approval Cover Sheet

For Permanent DL/DH Approval | College of Arts and Sciences

Course Number and Title:

Carmen Use

When building your course, we recommend using the [ASC Distance Learning Course Template](#) for CarmenCanvas. For more on use of [Carmen: Common Sense Best Practices](#).

A Carmen site will be created for the course, including a syllabus and gradebook at minimum.

If no, why not?

Syllabus

Proposed syllabus uses the ASC distance learning syllabus template, includes boilerplate language where required, as well as a clear description of the technical and academic support services offered, and how learners can obtain them.

Syllabus is consistent and is easy to understand from the student perspective.

Syllabus includes a schedule with dates and/or a description of what constitutes the beginning and end of a week or module.

If there are required synchronous sessions, the syllabus clearly states when they will happen and how to access them.

Additional comments (optional):

Instructor Presence

For more on instructor presence: [About Online Instructor Presence](#).

Students should have opportunities for regular and substantive academic interactions with the course instructor. Some ways to achieve this objective:

Regular instructor communications with the class via announcements or weekly check-ins.

Instructional content, such as video, audio, or interactive lessons, that is visibly created or mediated by the instructor.



- Regular participation in class discussion, such as in Carmen discussions or synchronous sessions.
- Regular opportunities for students to receive personal instructor feedback on assignments.

Please comment on this dimension of the proposed course (or select/explain methods above):

Delivery Well-Suited to DL/DH Environment

Technology questions adapted from the [Quality Matters](#) rubric. For information about Ohio State learning technologies: [Toolsets](#).

- The tools used in the course support the learning outcomes and competencies.
- Course tools promote learner engagement and active learning.
- Technologies required in the course are current and readily obtainable.
- Links are provided to privacy policies for all external tools required in the course.

Additional technology comments (optional):

Which components of this course are planned for synchronous delivery and which for asynchronous delivery? (For DH, address what is planned for in-person meetings as well.)

If you believe further explanation would be helpful, please comment on how course activities have been adjusted for distance learning (optional):

Workload Estimation

For more information about calculating online instruction time: [ODEE Credit Hour Estimation](#).

- Course credit hours align with estimated average weekly time to complete the course successfully.
- Course includes direct (equivalent of “in-class”) and indirect (equivalent of “out-of-class”) instruction at a ratio of about 1:2.

Provide a brief outline of a typical course week, categorizing course activities and estimating the approximate time to complete them or participate:

- In the case of course delivery change requests, the course demonstrates comparable rigor in meeting course learning outcomes.

Accessibility

For more information or a further conversation, contact the [accessibility coordinator](#) for the College of Arts and Sciences. For tools and training on accessibility: [Digital Accessibility Services](#).

- Instructor(s) teaching the course will have taken Digital Accessibility training (starting in 2022) and will ensure all course materials and activities meet requirements for diverse learners, including alternate means of accessing course materials when appropriate.
- Information is provided about the accessibility of all technologies required in the course. All third-party tools (tools without campus-wide license agreements) have their accessibility statements included.

Description of any anticipated accommodation requests and how they have been/will be addressed.

Additional comments (optional):

Academic Integrity

For more information: [Academic Integrity](#).

- The course syllabus includes online-specific policies about academic integrity, including specific parameters for each major assignment:
- Assignments are designed to deter cheating and plagiarism and/or course technologies such as online proctoring or plagiarism check or other strategies are in place to deter cheating.

Additional comments (optional):

Frequent, Varied Assignments/Assessments

For more information: [Designing Assessments for Students](#).

Student success in online courses is maximized when there are frequent, varied learning activities. Possible approaches:

- Opportunities for students to receive course information through a variety of different sources, including indirect sources, such as textbooks and lectures, and direct sources, such as scholarly resources and field observation.
- Variety of assignment formats to provide students with multiple means of demonstrating learning.
- Opportunities for students to apply course knowledge and skills to authentic, real-world tasks in assignments.

Comment briefly on the frequency and variety of assignment types and assessment approaches used in this course (or select methods above):

Community Building

For more information: [Student Interaction Online](#).

Students engage more fully in courses when they have an opportunity to interact with their peers and feel they are part of a community of learners. Possible approaches:

- Opportunities for students to interact academically with classmates through regular class discussion or group assignments.
- Opportunities for students to interact socially with classmates, such as through video conference sessions or a course Q&A forum.
- Attention is paid to other ways to minimize transactional distance (psychological and communicative gaps between students and their peers, instructor, course content, and institution).

Please comment on this dimension of the proposed course (or select methods above):

Transparency and Metacognitive Explanations

For more information: [Supporting Student Learning](#).

Students have successful, meaningful experiences when they understand how the components of a course connect together, when they have guidance on how to study, and when they are encouraged to take ownership of their learning. Possible approaches:

- Instructor explanations about the learning goals and overall design or organization of the course.
- Context or rationale to explain the purpose and relevance of major tasks and assignments.

- Guidance or resources for ancillary skills necessary to complete assignments, such as conducting library research or using technology tools.
- Opportunities for students to take ownership or leadership in their learning, such as by choosing topics of interest for an assignment or leading a group discussion or meeting.
- Opportunities for students to reflect on their learning process, including their goals, study strategies, and progress.
- Opportunities for students to provide feedback on the course.

Please comment on this dimension of the proposed course (or select methods above):

Additional Considerations

Comment on any other aspects of the online delivery not addressed above (optional):

Syllabus and cover sheet reviewed by *Jeremie Smith* on

Reviewer Comments:

Additional resources and examples can be found on [ASC's Office of Distance Education](#) website.