BCS 260: MUSIC AND THE MIND, Spring 2026
Tuesday/Thursday 3:25-4:40 p.m, Gavett 206
Course website on Blackboard (learn.rochester.edu)

I. PEOPLE AND RESOURCES

Professor: Dr. Elise Piazza (Brain & Cognitive Sciences, Neuroscience)
- epiazza@ur.rochester.edu
- Office hours (by appointment, Meliora 319 or Zoom)

Graduate TA:

Megan Kibler (mkibler@ur.rochester.edu)
Office hours: TBD, Rush Rhees in iZone, Project Room D
Recitation: TBD

Undergraduate TAs:

Naima Petersen (npeter11@u.rochester.edu)
Office hours: TBD
Recitation: TBD

Alex Holly (aholly@u.rochester.edu)
Office hours: TBD
Recitation: TBD

Luis Duterte (lduterte@u.rochester.edu)
Office hours: TBD
Recitation: TBD

…

*TAs will be in-person at the locations above, with the following Zoom link open if you want to join virtually. If you can't make any of these slots, just get in touch with any of us to make an office hours appointment!

Zoom link for all office hours/recitations: https://rochester.zoom.us/j/92769948396

Recitation sessions:
Weekly recitations are optional, but they will provide opportunities for in-depth discussion/review of course material and assigned research articles, "real-world"

applications of course topics, and extra review before the three midterms (in addition to the in-class review sessions).

Slack will be the preferred mode of communication for the course. Each student will be added to the Slack account and should post homework responses (to assigned articles; see details below), ask questions about course logistics and content (#course-questions-and-answers), and post relevant links/news articles/videos (#fun-extra-stuff). Please keep discussion on Slack supportive and positive!

Link to add yourself to Slack: https://join.slack.com/t/musicandthemi-fbk1601/shared_invite/zt-3mgi2zaaq-ooZYFaNM7eYXzU2sj2QbWQ

Suggested (but optional) textbook: Thompson, W. F. (2015). *Music, Thought, and Feeling: Understanding the Psychology of Music*. 2nd edition; NY: Oxford University Press. (NOTE: **PDFs of individual chapters are posted on Blackboard** under "Learning Modules → Thompson book chapters")

II. STUDENT LEARNING OBJECTIVES

Students who successfully complete this course will be able to:

- Describe how music cognition aids our understanding of human cognition, development, neuroscience more generally.
- Compare aspects of musical structure, as a cognitive system, with other systems such as language, visual pattern perception, and auditory scene analysis.
- Apply a basic understanding of theories of evolution, the physical properties of sound, principles of human development and learning, structure of the auditory system and brain, and theories of emotion, to the study of music.
- Understand the design of behavioral/neural experiments, be able to critique experimental designs for confounds, draw conclusions from data presented in experimental studies, and extrapolate from these data ideas for future studies.

Expectations for student participation:

To optimize your learning, you will:

- Attend class and participate in discussions in class, on Slack, and in recitation/office hours
- Come prepared to class, having read homework articles and completed assignments *beforehand*
- Download and review lecture slides (optional but recommended). Slide PDFs will be posted before each class.

III. COURSE REQUIREMENTS AND DEADLINES

(1) Three non-cumulative exams. Matching, multiple choice, fill-in-blank, short essay. These will be closed-book, in class on ***2/17, 3/26, and 4/30*.**

(2) Article homework assignments

You will be asked to read a series of articles, listed in the class schedule below **in orange**. Articles will be posted on Blackboard under "Learning Modules → Readings (articles)". For each reading, you will complete the following (two-part) assignment on Slack. In total, these homework posts will amount to 10% of your grade.

- Slack post (part 1): You should post one substantive comment and/or question about each article on the Slack discussion channel for your assigned discussion group. You will be assigned to the same Slack discussion group of students for the entirety of the class.
There will be question prompts posted by the TA in your group to help stimulate discussion, but you are welcome to come up with your own questions or comments! Please begin each post by writing the article citation (e.g., Schlaug (2001)) so we know what you're writing about. Posts should include meaningful content about the article (not simply "it was great!"). Posts should be about a paragraph long.

- Slack post (part 2): You will also be expected to respond to at least one other student's post. (Again, this response should contain some substantial contribution to the discussion, not simply "I agree!").

(3) Other homework assignments

HW 1: Google Chrome Lab (*due 2/10*)

Go to https://musiclab.chromeexperiments.com/Spectrogram/, record your own voice and/or instrument(s), and observe the resulting spectrogram(s). (See the end of Lecture 4 (Acoustics) for an example). Play around with different pitches and timbres and observe what changes. On Slack (#hw-chrome-lab channel), write a paragraph describing your observations and post a picture of your spectrogram(s)! For example, what happened when you sang a vowel vs. a consonant, or changed the pitch of your voice? (Describe in terms of harmonics). What happened when you played a very brief note vs. one with a long decay? What does vibrato look like? (You do not need to

answer all of these questions and can also come up with your own).

HW 2: Expectation (*due 3/5*)

On Slack (#hw-expectation channel), post a link to a piece (or clip) of music and in a few sentences, describe how it manipulates listeners' expectation, using concepts described in class (e.g., schematic, dynamic, or veridical expectation; ITPRA theory).

HW 3: Emotion in film (*due 4/9*)

On Slack (#hw-emotion channel), write a brief paragraph describing a particularly compelling use of music to convey emotion in film/TV. It can be either emotionally congruent or incongruent with the plot/scene.

HW 4: Performance (*due 4/28*)

Sometime during the semester, attend one live musical performance. On Slack (#hw-performance channel), post a description linking aspects of the concert to our Performance lecture (e.g., how certain performance cues elicited certain emotions, how different aspects influenced your judgments of whether it was a "good" performance, the influence of visual cues on your perception of the sounds).

HW 5: IRL research in BCS (*due 4/28*)

Sometime during the semester, attend one research talk/presentation. On Slack (#hw-irl-research channel), post a summary, one surprising takeaway, and one comment linking it to the course content. This can include a talk at an ESM/UR Music Cognition Symposium (2/28 or 4/18), an Undergraduate Research Expo talk/poster, or a faculty job talk in the Brain & Cognitive Sciences department. (Details to be announced on Slack).

**HOMEWORK PASS: You are allowed ONE homework pass during this course, which gets you out of one article homework assignment (all Slack posts), OR one other hw assignment. If there is a quiz for the week, you are still required to take it (if that is a problem, see late policy below). To use your homework pass, fill out the form (will be posted in Slack and given in class).

(4) Quizzes

You will receive a link (via e-mail) to a Google survey containing quiz questions about recent course material. You must complete each quiz on your own. You are allowed to attempt the quiz TWO TIMES (and we will take the higher score). The goal of the quizzes is to review the material and assess your

knowledge in anticipation of exams, so we recommend that you try it the first time without notes to properly gauge your learning.

(5) Participation

Although this is a lecture course, participation is 8% of your total grade, and you will be expected to actively participate in several ways:

- 5% will come from some combination of in-class course discussion and external engagement with course topics.
    - In-class discussion can include both asking and answering questions during lecture. This course benefits greatly from rich discussion from many diverse perspectives, so everyone is encouraged to share!
    - External engagement can include:
        - adding content on Slack (e.g., Q's or A's in #course-questions-and-answers channel; relevant articles/anecdotes in #fun-extra-stuff channel),
        - coming to office hours/recitations (or scheduling time to meet with us if you can't make it to either),
        - asking questions in our course feedback form (below) or over Slack/email, and
        - completing the mid-semester and final course evaluations
    - Note: to get the full 5 pts, you must contribute in *at least 3* of the above (underlined) categories.
        - Course feedback form: https://forms.gle/Wso4jjdAuYcmkGYC9

- 3% will come from attendance, which is mandatory. If you have an extenuating circumstance that prevents you from attending class (sickness, grad school visits, etc.) please fill out the Google Form below (also pinned in Lecture 1 and Slack).
    - We will be tracking your participation actively through QR codes that will be available in lecture.

Absence form: https://forms.gle/QA7P9f5CpFKqxcF59

(7) Extra credit

You can also gain up to three percentage points of extra credit on your total course grade by filling out an Extra Credit Assignment Form (available here: https://forms.gle/UBPtNgXTwiAZk9T5A) for the following:

- Attend the Undergraduate Research Expo (**up to 1 pt**)
- Attend a Music Cognition Symposium (**up to 1 pt**)
- Attend a musical performance (**up to 1 pt**)

*Note: to receive extra credit, you must attend/discuss an event in ADDITION to the ones you submit for HW 4 + 5

Final grade breakdown:

- Three "midterm" exams (non-cumulative, 20% each): 60%
- Article posts on Slack: 10%
- Other homework assignments: 10%
- Quizzes: 12%
- Participation: 8%

IV. LATE POLICY:

Any **homework assignment or quiz** submitted up to 24 hours late gets ½ credit. (After that, 0 credit). Note: you are allowed to attempt the **quiz** TWO TIMES (and we will take the higher score), but you must still complete this by the deadline to get full credit.

We are willing to grant extensions ONLY IF you submit a request (via the Google form linked below and on Slack), preferably **3+ days before a deadline,** and/or with a reasonable excuse (e.g., illness, family emergency, job interview).

Assignment extension form: https://forms.gle/hQH6SxYqbETa2kY68

V. OTHER INFO

Academic Honesty: The course Blackboard site has a section on academic honesty, including a PowerPoint presentation on the topic. Visit this website, especially the section on "Tips and Pitfalls" for advice: https://www.rochester.edu/college/honesty/ You (and I) are bound by the policies on this site.

On the Use of Generative AI:
Students may use AI programs (e.g., ChatGPT) only to help clarify concepts taught in this course. (For example, one might ask an AI program: "I don't understand the concept of 'natural selection'. Please provide some examples of this concept"). However, since analytical/critical thinking, reading and writing skills are major learning objectives of the course, all course assignments must be completed by a student without the assistance of AI programs.

Learning Assistance: If you have a disability for which you may be requesting an academic accommodation, please reach out to Dr. Piazza early on in the course about your specific needs and the access coordinator for your school to establish eligibility for academic accommodations. The TAs and I are happy to help with any questions/issues you may have about this, but it is your responsibility to reach out to the disability office >1 week before each exam to schedule proctoring (the TAs will be unable to schedule last-minute proctoring).
http://www.rochester.edu/college/disability/ (AS&E students)
https://www.esm.rochester.edu/academic-affairs/disability/ (Eastman students)

VI. SCHEDULE of Topics and Readings (subject to change slightly!)
Note: <u>All assignments</u> (i.e., Slack posts for research articles, quizzes, and other homework) are due <u>BEFORE THE START OF CLASS</u> on the date listed.

	Topic	**DUE** **Thompson chapters (suggested)** **Research articles (Slack posts required)** **Other homework (Slack posts required)** **Quizzes (required)**
Unit 1: Introduction; Music and Evolution		
1/20—Tu	Intro. to Music Cognition	
1/22—Th	Origins of Music	Thompson, Ch. 2 Pinker (1997) McDermott & Hauser (2005)
1/27—Tu	Research Methods + Statistics	Levitin (1999); Windsor (2004) (**These 2 are suggested, not required)

Unit 2: The Auditory System, Pitch, and Melody		
1/29—Th	Sound & the Auditory System	Thompson, Ch. 3
2/3—Tu	Pitch Perception and Related Issues	Schellenberg & Trehub (2003) Quiz #1
2/5—Th	Melody I - Gestalt Principles (For non-music students): Music Theory Review	Schellenberg et al. (1999)
2/10—Tu	Melody II - Memory	Thompson, Ch. 4 HW: Chrome Music Lab
2/12—Th	Midterm Review	Quiz #2
2/17—Tu	**Midterm #1**	
Unit 3: Tonality and Meter		
2/19—Th	Tonality I: Tonal Hierarchy	Krumhansl & Shepard (1979): Expt. 1 only!!
2/24—Tu	Tonality II: Key-Finding and Key Relations	
2/26—Th	Rhythm & Meter	Quiz #3
3/3—Tu	Expectation	
Unit 4: Music, Brain, and Language		
3/5—Th	Brain Structure & Research Methods; Synaesthesia	Thompson, Ch. 6 HW: Expectation
3/17—Tu	Brain Research on Music	Schlaug (2001) OR Habibi et al (2018)
3/19—Th	Language and Music	Patel (2005)
3/24—Tu	Exam Review; Academic Honesty	Quiz #4
3/26—Th	**Midterm #2**	
Unit 5: Musical Development and Performance		
3/31—Tu	Infants I: Testing Methods	Thompson, Ch. 5
4/2—Th	Infants II: Findings in Music Psychology	Hannon & Trehub (2005)
4/7—Tu	Music Performance	Thompson, Ch. 9 Quiz #5
Unit 6: Effects of Music: Emotion, Well-Being, Therapy		
4/9—Th	Emotion I: Theories	Thompson, Ch. 7 HW: Emotion in film
4/14—Tu	Emotion II: Experimental Findings	

4/16—Th	Music Liking and Preference	
4/21—Tu	Music and Well-Being	Thompson Ch. 8
4/23—Th	Power of Music: "Mozart Effect," Music and Drugs	Thompson, Ch. 11 Rauscher et al. (1993) Quiz #6
4/28—Tu	Exam Review	HW: Performance HW: IRL research
4/30—Th	**Midterm #3**	