

Psychology of Music (Psy3405), Fall 2010
School of Natural and Social Sciences
Purchase College, SUNY

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We will be using Moodle:
moodle.purchase.edu

Course Objectives

You will be expected to gain knowledge of the various lecture topics, and you will be asked to illustrate your comprehension of these topics through written assignments. By reading scientific journal articles and learning about various experiments, you will gain an understanding of how to empirically test a hypothesis. The course will culminate in a research proposal, in which you will individually identify a particular aspect of music perception that you find fascinating and develop a testable hypothesis regarding your topic of choice. You will design an experiment that can test your hypothesis (you don't need to actually run the experiment), and you will write a final paper explaining your hypothesis and testing method. Assignments throughout the course are geared to help you through the various stages of writing your research proposal and to foster scientific writing skills. You should utilize the assignments and the instructor feedback as tools to help develop clear, concise, and articulate writing.

Required Textbooks and Readings

- Cook, Perry. (1999/2001). *Music, Cognition, and Computerized Sound: An Introduction to Psychoacoustics*. Cambridge, MA: MIT Press.

The library has this as an eBook!

http://saranac.sunyconnect.suny.edu:4500/F?func=find-c&ccl_term=%28035%3DOCoLC42922503%29

- Thompson, William Forde. (2009). *Music, Thought, and Feeling: Understanding the Psychology of Music*. New York: Oxford University Press.
- We will also read several journal articles, all of which are currently available on Moodle.

Course Syllabus

Note: You are expected to come to class having read the chapter listed for each class session

Week 1 (Aug. 30 & Sept 2): Overview and Introduction to Auditory Processing

Monday: Overview of course

Thursday:

- Cook, Chapter 1 – The Ear and How It Works

- Cook, Chapter 2 – The Auditory Brain

Week 2 (Sept. 6 & 9): Pitch Perception

Monday: NO CLASS

- *Homework 1 is due (submit via Moodle by 11:59 pm)*

Thursday:

- Cook, Chapter 5 – Introduction to Pitch Perception
- Cook, Chapter 13 – Pitch Perception and Measurement

Week 3 (Sept. 13 & 16): Tonality, Scales, and Musical Expectations

Monday:

- Cook, Chapter 14 – Consonance and Scales
- Cook, Chapter 15 – Tonal Structure and Scales
- *Homework 2 is due (submit via Moodle by 11:59 pm)*

Thursday:

- Tillmann, B., Janata, P., & Bharucha, J. J. (2003). Activation of the frontal cortex in musical priming. *Cognitive Brain Research*, 16, 145-161.

Week 4 (Sept. 20 & 23): Music Perception

Monday:

- Thompson, Chapter 4: Music Acquisition
- *Homework 3 is due (submit via Moodle by 11:59 pm)*

Thursday:

- Thompson, Chapter 5: Perceiving Music Structure

Week 5 (Sept. 27 & 30): Memory for Music

Monday:

- Cook, Chapter 17 – Memory for Musical Attributes
- Zatorre, R. (2003). Absolute pitch: A model for understanding the influence of genes and development on neural and cognitive function. *Nature Neuroscience*, 6 (7), 692-695.
- *Homework 4 is due (submit via Moodle by 11:59 pm)*

Thursday:

- Halpern, A. & Zatorre, R. (1999). When that tune runs through your head: A PET investigation of auditory imagery. *Cerebral Cortex*, 9, 697-704.

Week 6 (Oct. 4 & 7): Music, the Brain, and Deficits

Monday:

- Thompson, Chapter 7: Music and the Brain
- *Homework 5 is due (submit via Moodle by 11:59 pm)*

Thursday:

- Ayotte, J., Peretz, I., & Hyde, K. (2002). Congenital amusia: A group study of adults afflicted with a music-specific disorder. *Brain*, 125, 238-251.

Week 7 (Oct. 11 & 14): Review and Exam

Monday: Review lecture

- Homework 6 is due (submit via Moodle by 11:59 pm)

Thursday: Exam 1

Week 8 (Oct. 18 & 21): Music and Language: Syntax and Semantics

Monday:

- Maess, B., Koelsch, S., Gunter, T., & Friederici, A. (2001). Musical syntax is processed in Broca's area: An MEG study. *Nature Neuroscience*, 4 (5), 540-545.
- Fedorenko, E. et al., (2009). Structural integration in language and music: Evidence for a shared system. *Memory & Cognition*, 37 (1), 1-9.

Thursday:

- Koelsch, S. et al. (2004). Music, language, and meaning: Brain signatures of semantic processing. *Nature Neuroscience*, 7, 302-307.
- Homework 7 is due (submit via Moodle by 11:59 pm)

Week 9 (Oct. 25 & 28): Music and Emotion: Recognition

Monday:

- Thompson, Chapter 6 – Music and Emotion

Thursday:

- Fritz, T. et al. (2009). Universal recognition of three basic emotions in music. *Current Biology*, 19, 1-4.
- Curtis, M. & Bharucha, J. (2010). The minor third communicates sadness in speech, mirroring its use in music. *Emotion*, 10 (3), 335-348.
- Homework 8 is due (submit via Moodle by 11:59 pm)

Week 10 (Nov. 1 & 4): Music and Emotion: Responses

Monday:

- Blood, A. J., Zatorre, R. J., Bermudez, P., & Evans, A. C. (1999). Emotional responses to pleasant and unpleasant music correlate with activity in paralimbic brain regions. *Nature Neuroscience*, 2 (4), 382-387.

Thursday:

- Salimpoor, V. N. et al., (2009). The rewarding aspects of music listening are related to degree of emotional arousal. *PLoS ONE*, 4 (10): e7487.
- Homework 9 is due (submit via Moodle by 11:59 pm)

Week 11 (Nov. 8 & 11): The Value of Music

Monday:

- Thompson, Chapter 10 – Music and Other Abilities
- Rauscher, F., Shaw, G., & Ky, K. (1993). Music and spatial task performance. *Nature*, 365, 611.

- Thompson, W., Schellenberg, G., & Husain, G. (2001). Arousal, mood, and the Mozart effect. *Psychological Science*, 12, 248-251.

Thursday:

- Schlaug, G., Marchina, S., & Norton, A. (2008). From singing to speaking: Why singing may lead to recovery of expressive language function in patients with Broca's aphasia. *Music Perception*, 25, 315-323.
- Homework 10 is due (submit via Moodle by 11:59 pm)

Week 12 (Nov. 15 & 18): Evolutionary Theories

Monday:

- Thompson, Chapter 2 – Origins of Music

Thursday:

- Patel, A. D. (2010). Music, biological evolution, and the brain. In: M. Bailar, (Ed.). *Emerging Disciplines*. Houston, TX: Rice University Press (pp. 91-144).
- Homework 11 is due (submit via Moodle by 11:59 pm)

Week 13 (Nov. 22 & 25): Is Music Unique to Humans?

Monday:

- Patel, A. D., Iversen, J. R., Bregman, M. R., & Schulz, I. (2009). Studying synchronization to a musical beat in nonhuman animals. *Annals of the New York Academy of Sciences*, 1169, 459-469.

Thursday: NO CLASS

Week 14 (Nov. 29 & Dec. 2): Class Presentations

Monday: Student Presentations

Thursday: Student Presentations

Week 15 (Dec. 6 & 9): Presentations and Review

Monday: Student Presentations

Thursday: Review lecture

- Final paper is due (submit via Moodle by 11:59 pm)

Week 16: Final Exam Week

Thursday (Dec. 16): Final Exam, 3:00-5:30 pm