Music Perception and Cognition (PSYC / NS&B 342)

TR 10:30 – 11:50
Location: Judd Hall room 113
Instructor: Psyche Loui
Office Hours: TR 2:00 – 3:00 in Judd Hall room 300, or by appointment

Description
This course provides an overview of the perceptual, cognitive, and neural bases of performing, composing, and listening to music. Topics include acoustics and biological processing of sound; theories and empirical research on pitch, rhythm, harmony, melody, timbre, orchestration; similarities and differences between music and language; evolution and development of musical ability, and special populations in musical functions. Meetings will include laboratory demonstrations and exercises in experiment design and data analysis. A final project (paper and in-class presentation) is required.

Evaluation
Your final grade will be based on the following:

10% Attendance and Participation
20% Presentations
30% Tests (10% x 3 tests)
40% Project (5% proposal + 15% talk + 20% paper)

The final letter grade will be based on your overall score consistent with the university grading system:

A+ 97 – 100%  B+  87 – 89%  C+  77 – 79%  D+  67 – 69%  E  51 – 60%
A   92 – 96%  B   82 – 86%  C   72 – 76%  D   62 – 66%  F<50%
A-  90 – 91%  B-  80 – 81%  C-  70 – 71%  D-  60 – 61%

NOTE: All final grades will be rounded up to the nearest percentage point. (“Rounding up” is defined as going to the next integer for any score at .5 or above.)

Presentations
Each student will present two or more readings throughout the semester. The purpose of these presentations is to generate interest and a dialog within the group. In the first week, you will sign up for specific papers to present. I am happy to meet individually as needed to prepare these presentations.

Tests
There will be three noncumulative midterms. Each will be a combination of multiple choice and long answer questions. Please bring a blue or black pen for exams. You do not need a scantron form. NOTE: Please read the Wesleyan Honor Code and abide by it closely (www.wesleyan.edu/studentaffairs/honorboard/honorcode.html).

Project
There will be one end-of-term project in which you can explore an area of interest within the field of music perception and cognition. Early in the semester, you will submit a project proposal for feedback and suggestions from the group. There will be an oral component (spoken presentation) and a written component (10-page paper) to the final project. Details for this project will be given out later in the semester.
Spring 2014

Textbook and Course Website
The textbook is for background information and is available for sale or for rent in the
Broad Street bookstore. Two copies of the textbook have been placed on reserve in the
Olin library.
In addition to the textbook, primary reading materials will be posted on the course
website on Moodle throughout the course. These will be research articles or review
articles that will be discussed during class. Reading these are required for presentations;
however you will be tested on material from the articles that are covered in class.

Class Schedule

**Unit 1: Sounds and the auditory system**

1/23  **Introduction. What is music? The auditory stimulus.**
Dan Levitin, This is your brain on music. Preface and Chapter 1. What is music?
Principles for Good Conversations

1/28  **The auditory system**
Background: Tan, Pfordresher, Harre. Chapter 3. Sound and the neurophysiology of
hearing.

1/30  **The voice**
Background: Deutsch, Chapter 3. Perception of Singing.
F0 responses to manipulations in pitch feedback. *J Acoust Soc Am*, 103(6), 3153-3161.
Modulation of Feedback Integration during Singing: Role of the Right Anterior Insula. *J
Neurosci*, 33(14), 6070-6080.

2/4  **Auditory scene analysis, and auditory illusions**
R. P. Carlyon, C. J. Darwin & I. J. Russell (Eds.), *Processing of complex sounds by the
auditory system*. (pp. 97-103). New York, NY US: Clarendon Press/Oxford University

2/6  **Loudness, Spatial hearing and room acoustics**
Background:
nearby sound sources in a classroom: binaural room impulse responses. *J Acoust Soc
Am*, 117(5), 3100-3115.
Lamminmaki, S., Mandel, A., Parkkonen, L., & Hari, R. (2012). Binaural interaction and

2/11  **TEST 1 & Project proposals discussion**
Unit 2: The musical surface

2/13 Pitch
Background: Deutsch, Chapter 1. The Perception of Musical Tones.
Responses to Castellano et al by Deutsch and Dowling (1984)

2/18 Consonance, tuning, and scales

2/20 Timbre Project proposals DUE

2/15 Harmony

**2/27  Melody**  
Or Deutsch, Chapter 7. The Processing of Pitch Combinations.  

**3/4  Rhythm and meter**  

**3/6  TEST 2 & Feedback on project proposals**

**3/25  Meter, counterpoint, and voice-leading**  

**Unit 3: Cognitive theories**

**3/27  Music and language: Syntax**  

4/1 Music and language: Prosody and semantics

4/3 Expectation and anticipation

4/8 Action and perception
4/10  TEST 3 & Discussion on projects

4/15  Music and emotion

4/17  Developing and educating musicians; Neuroplasticity and musical training

4/22  Evolution of musical ability

4/24  Exceptional musical ability

4/29  Neurology of music and therapeutic approaches

5/1  Project presentations

5/6  Project presentations

5/13  Final paper DUE

Course Registration
Enrollment in this course is by Permission Of Instructor during the pre-registration period. If you would like to enroll, please send an email to ploui@wesleyan.edu with your name, class year, major, previous relevant courses you have taken, and a brief explanation on why you want to take the course. To secure your place in the course, please be sure to come to the first day of class.

Disability Resources
Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible.
If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-2332 for an appointment to discuss your needs and the process for requesting accommodations.