



Faculty of Arts and Social Sciences  
**COGNITIVE SCIENCE**

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**COGS 300: SELECTED TOPICS IN COGNITIVE SCIENCE:  
LANGUAGE, MUSIC, AND COGNITION**

Instructor: Nancy Hedberg  
Office: RCB 9211

Time: Fridays 9:30 – 12:20  
Office Hours: TBA  
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**COURSE DESCRIPTION:**

As cognitive systems, language and music share a remarkable number of properties. Both involve hierarchical organization of discrete elements at multiple levels. Both instantiate systems which differ across cultures and need to be learned, but which also involve capacities that appear to be universal and unique to our species. In this class, we will examine the relationship between language and music as cognitive capacities, by addressing questions such as the following:

1. How are pitch, rhythm and timbre utilized in music and spoken language, and how analogous are the roles of these components in the two types of systems?
2. What is the relationship between how music and language are instantiated in the brain? Do these knowledge systems constitute separate modules, or do they overlap and involve shared cognitive resources?
3. What are the analogues of music and speech in other species? Is the structure of bird song analogous to phonology, to syntax, or to the structure of music?
4. Does music have syntax? Does exactly the same type of mental computational system apply in structuring both, or are they organized differently?
5. Is there an analogue of semantics in music? Does music lack meaning, does it express emotions, or does musical semantics have to do with harmonic expectancies?
6. What is the role of evolution in the development of language and music? Did one develop out of the other? To what extent are both capacities innate? What is the role of cultural transmission in their development?

**REQUIRED TEXTS:** Patel, Aniruddh D. 2008. Music, Language and the Brain. Oxford University Press. Additional readings and video clips will be made available to students electronically.

**COURSE REQUIREMENTS:** Active participation, including attendance 20%; two short (2-3pp) summaries of articles 10% each; class presentation 25%; final paper 35%.

**PREREQUISITES:** COGS 100, COGS 200, and lower-division COGS requirements. If you are not a Cognitive Science Major or Minor student, and are in a related field, you may ask permission of the instructor to be admitted.