

c o u r s e a n n o u n c e m e n t

ISE 599: Engineering Approaches to Music Perception and Cognition

Spring 2004 Daniel J. Epstein Department of Industrial and Systems Engineering
University of Southern California • School of Engineering

Instructor: **Elaine Chew** <echew@usc.edu>
GER-245, (213) 8.212.414

Section: 048-35145D

Day: **Thursday 6:30-9:20pm** (negotiable at first meeting)

Location: **PHE333**

Text: Selected technical papers from current literature

Website: <http://www-classes.usc.edu/engr/ise/599muscog>

Pre-requisites: Graduate standing in engineering or by instructor's consent.
Programming experience (C++ or Java) desirable.

The course will be approved for credit towards the MSIMS and MSEE (MCT) and possibly for the MSCSCI (MCT) degrees. It will be cross-listed in the 2004-5 schedule as ISE 575 / EE 675. Cross-listing with CS in process.

This course surveys computational research in music perception and cognition. Information processing by humans serves as a basis for improving human-computer interaction in music information systems. The topics include basic concepts of music perception and cognition, computational methods for abstracting and extracting pitch and time structures, pattern and style recognition, expression synthesis, analysis and interpretation. Students will gain hands-on experience by implementing selected algorithms from the surveyed literature. The implementation projects will provide computational practice in music analysis, segmentation, synchronization and retrieval.