Fall 2007 Course

Introduction to

Music Informatics

INFORMATICS I548 / MUSIC N560 (3 credits)

Prof. Don Byrd • MWF, 1:25 - 2:15 PM • Simon Center 373

In these days of iTunes, iPods, and iPhones, people *obtain* and *listen to* music in digital form all the time, but that just scratches the surface of what's possible. Systems exist now that identify, from databases of millions of recordings, music heard in a noisy bar and transmitted via cell phone, or hummed into a microphone. Other systems can search a database of scores or MIDI files for a pattern of notes, for a chord progression, or for music in a given genre. And concerts have been given (even in Bloomington) in which computers follow live musicians' leads to play a predetermined score, or "improvise" freely or by re-using existing music.

Likely topics include:

- making music with a computer; basics of digital audio
- acoustics and psychoacoustics; how what we expect influences what we hear
- music representation and notation; converting between formats, etc.
- music similarity, sampling, intellectual property rights
- music retrieval via metadata (digital music libraries) & by content (music IR)
- computer-aided performance, composition, & improvisation

As material to study, we'll listen to and look at music in a wide a variety of styles.

The course assumes a solid background in music fundamentals; some music theory would help. Some assignments may involve computer programming, but no programming experience is necessary. The course is open to all graduate students; however, I'd be happy to include qualified undergraduates with junior standing.

For more information, contact me (donbyrd@indiana.edu, phone 856-0129).

Indiana University School of informatics

Music