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).