In these days of iTunes, iPods, etc., people listen to music in digital form all the time, but many exciting possibilities for computer handling of music are still in various stages of research. Systems exist now that identify 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 pitch intervals or note durations, for a chord progression, or for music in a given genre. And concerts have been given in which computers follow live musicians’ leads, or “improvise” freely or by re-using existing music.

We will listen to and look at real music in a variety of styles, and will consider, among other things:

- how musical information can be represented, manipulated, and displayed
- what it takes to get a computer to transcribe performed music into notation
- why some music sounds like other music when you might not expect it, and vice-versa
- how searching for music via content (music information retrieval) works
- how searching for music via metadata (library-catalog style) works

The course assumes a solid background in music fundamentals; some music theory would help. Some assignments will involve computer programming, but no programming experience is necessary. Prerequisites: MUS-N 364: Open to Informatics students with music cognates, others by permission of instructor; junior standing. MUS-N 564, INFO I590: Open to graduate students.

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