This is a seminar-style independent study course in advanced design and programming for computer music.

To midterm we will study the tutorials provided with the Max/MSP programming environment that focus on processing of MIDI, OSC, and other communications (e.g. USB and wireless), structures for live digital audio signal processing, and examples of unique software-based instrument designs implemented using Max/MSP.

In this phase of the course we will develop fundamental programming skills. Each week seminar participants will produce a simple Max/MSP patch that illustrates the functions and structures introduced in the tutorial chapter. This will be shared with other participants the following meeting as a means to deepen what is learned from the examples given in the tutorials.

Following midterm each participant develops an independent project focused on a theme drawn from sound synthesis, performance, and automation, leading to production of a unique digital musical instrument or processor. This phase is meant to move out of generalities into specific applications. The development of independent projects deepens the design and programming skills in an area of interest for the individual. Weekly discussions and demonstrations of individual projects provide feedback and contribute the ideas and knowledge base for all participants.

The scope of the course will be limited to Max and its MSP component, without advanced work with the video component, Jitter, or extending Max/MSP using JavaScript or other programming languages.

**Schedule**

We will meet Mondays at 5:00pm in the EMS.

**August 31 – October 26 Tutorials and Short Projects**

MIDI: 1. Basic MIDI

MIDI: 2. MIDI Note Management, 3. Parsing, 4. MIDI Basic Sequencing

MSP: *read intro and* 1. Test Tone, 2/3: Oscillators

9/14: User Interface: 1. Bpatchers  
*free period for catching up and/or building a preliminary project patch (professor away on tour, but class meets)*


10/19: *select tutorials relevant to your project from these groups:*  
1. *data manipulation:* Basic 17,18,21 and Data tutorials  
2. *graphics/drawing orientation:* Basic 10,11 or custom UI pictures  
3. *interfacing:* Communications tutorials  
4. *MSP-based sound synthesis techniques:* (e.g. FM, Waveshaping)

**October 26 – November 30 Individual Term Projects**

*meetings review projects’ work in progress*

**12/7 Present Term Projects** with brief descriptive paper distributed to all participants