

# Interactive Music System Technology

IT 485001

## Course Syllabus

**Instructor:** Prof. V.J. Manzo

<http://www.vjmanzo.net> | [vjm@njit.edu](mailto:vjm@njit.edu)

**Course website:** all of the assignments and our syllabus are located on Moodle ([moodle.njit.edu](http://moodle.njit.edu)).

**Supplies:** there is no required textbook for this course so that students can invest money into purchasing the software we are using. While the lab contains all of the software we will discuss and is open to use for all information technology majors, it is **strongly** encouraged that you purchase the software for personal use. Each student must purchase a removable storage device (flash drive, etc.) and back up his/her work regularly. Students should also backup the removable storage device to another machine regularly. No information can be stored on the computers in the lab as all data is erased upon logging off. The book Max/MSP/Jitter published by Oxford University Press is recommended for this course.

**Computer Lab & Resources:** our computer lab is open every weekday (hours posted on the lab door). The lab monitors are **NOT** tutors or technical support. Read the Help files and other documentation if you are stuck. Do not rely on them for assistance.

**Assignments:** All assignments are due on the due date in the Moodle Assignment Section. Submit assignments to Moodle—do not e-mail them. **Each student is expected to do his/her own unique work.** Assignments for each class are listed below. Consult the syllabus for each class meeting and complete the assignments after each class.

**Course Description:** This course develops an understanding of the basics of digital audio, computer music protocols such as MIDI and OSC, synthesis, sequencing, and signal processing. Emphasis is placed on the development of interactive software for music creation using algorithmic techniques. This course explores the many applications for which such software can exist including music composition and performance, live video/audio installations, creating new musical instruments, music analysis, scoring for film and multimedia, instructive and assistive technologies, and directs projects along these paths.

**NOTE:** I realize that some of you in the class may be more knowledgeable of some topics in this course than others. This includes discussion of computer operation (both

advanced and basic) as well as some discussion of signal theory, synthesis, acoustics, and digital audio processing. Your patience is appreciated as there is a necessity for us to begin our class from a common set of terminology.

**Registration and withdrawal:** Students are referred to the University Bulletin for all registration deadlines and withdrawal dates pertaining to this course. Bulletins are available in the Registrar's office.

**Syllabus:** Every student must acquire the syllabus from Moodle.

**Make-up policy for Examinations:** To pass the course, you must submit the Final Project. No excused absences will be granted ahead of time.

**Attendance policy:** Students are expected to be in attendance, on time, mentally alert, and prepared for each session. Two absences will be forgiven. More than four classes missed will result in a failing grade. Note: missing a double-period course counts as two classes missed. More than two absences will result in the following point penalties:

- For each absence (beyond two) three points will be subtracted from the term average before a term grade is assigned. Exception: Any student who requests in advance to be excused to observe a religious holiday on the University calendar will be granted permission and counted present for the purpose of grading.

**Term Grades:** There will be one final project as well as a number of homework assignments. All assignments are due on time class and will not be accepted late. Moodle is sometimes unreliable—please allow time for Moodle complications. The rewards and penalties for punctual attendance mentioned above will be factored into your grand average to arrive at your final grade. For borderline grades, class preparedness and participation will be weighed to tip the balance.

Letter grades and grades expressed as percentages counterchange according to the following table:

- A : 96 - 100
- A- : 90 - 95
- B+ : 87 - 89
- B : 84 - 86
- B- : 80 - 83
- C+ : 75 - 79
- C : 70 - 74
- D : 60 - 69
- F : 0 – 59

**Academic Integrity:** It should go without saying, but academic dishonesty of any sort will not be tolerated. This is outlined in the University Code of Conduct:

<http://www.njit.edu/academics/integrity.php>

**Special Students:** We ask that any student with a disabling condition requiring special accommodations disclose this need to the professor at the very beginning of the course. (Special accommodations might include recording devices, adaptive equipment, special note-taking or test-taking procedures, etc.) We will work with the General Education and Learning Assistance Program and the Special Education Department to ensure that every student can participate in and benefit fully from this class.

**Possible changes to the syllabus:** Although change is unlikely, this syllabus is subject to change. We will make changes only as necessary for the effective running of the course.

**Class 1:** Intro to Sound, MIDI, & Max

**Assignments:**

- read MIDI assignment
- read Algorithmic Composition assignment

**Class 2:** Generating Music

**Assignments:**

- Complete Introduction to Max Programming assignment
- Read Mozart Dice Game assignment

**Class 3:** Math Max & Harmony

**Assignments:**

- Complete Generating Music assignment
- Read Interactive Applications & Wearable Computing assignment

**Class 4:** Control Interfaces

**Assignments:**

- Complete Interactive Music Chapters assignment
- Max Project assigned (due by Class 7)

**Class 5:** Building Standalones

**Assignments:**

- Bring Max project with you to work on in next class (lab)
- Complete Chapter Building Standalones assignment (optional)

**Class 6:** Max Project lab

**Assignments:**

- Complete Max project
- Read Ray Kurzweil and Electro-acoustic Music assignment

**Class 7:** Intro to GarageBand

**Assignments:**

- Begin exploring GarageBand
- Listen to Algorithmic Compositions assignment

**Class 8:** Recording with GarageBand

**Assignment:**

- GarageBand project assigned (due by Class 11)

**Class 9:** Effects and Intro to Logic

**Assignment:**

- Bring GarageBand project with you to work on in next class (lab)

**Class 10:** GarageBand project lab

**Assignment:**

- Complete GarageBand project

**Class 11:** Intro to MSP

**Assignment:**

- Complete Intro to MSP assignment

**Class 12:** All About Buffers

**Assignments:**

- Complete All About Buffers assignment
- MSP project Assigned (due by Class 16)

**Class 13:** Timing in Max

**Assignment:**

- Complete Timing Chapter assignment

**Class 14:** FX in Max

**Assignments:**

- Complete Effects and Processing in MSP assignment
- Bring MSP project with you to work on in next class (lab)

**Class 15:** MSP project Lab

**Assignments:**

- Complete MSP project
- Final Project Proposal Assigned (standing assignment - complete ASAP)

**Class 16: iMovie**

**Assignment:**

Work on Final Project/Proposal

**Class 17: Intro to Jitter**

**Assignment:**

- Complete Working with Live Video Chapter Assignment
- Work on Final Projects

**Class 18: More Video Processing**

**Assignments:**

- Complete Working With Video Chapter Assignment
- Bring Final project with you to work on in next class (lab)

**Class 19: Final project lab**

**Assignment:**

- Work on Final Projects

**Class 20: Analyze Max projects**

**Assignments:**

- Read Advanced Max Projects assignment (reading assignment only)
- Bring Final project with you to work on in next class (lab)

**Class 21: Final project lab**

**Assignment:**

- Work on Final Projects

**Class 22: Explore Myna, Jam2Jam, and Mainstage**

**Assignments:**

- Work on Final Projects
- Bring Final project with you to work on in next class (lab)

**Class 23: Final project lab**

**Assignment:**

- Work on Final Projects

**Class 24: Special Topic TBA**

**Assignments:**

- Work on Final Projects
- Bring Final project with you to work on in next class (lab)

**Class 25:** Final project lab

**Assignment:**

-Work on Final Projects

**Last Class:** Present Final Projects

**Assignment:**

-Submit Final Project materials