

# PY.350 (COMPUTER MUSIC)

## Courses

### **PY.350.409. Hip Hop Music Production 1. 2 Credits.**

A history and workshop course designed to illuminate the history of Hip Hop music.

Area: P, Y

### **PY.350.410. Hip Hop Music Production 2. 2 Credits.**

Conceived as a follow-up class to "Hip Hop Music Production: History and Practice 1", this course is designed to further explore production styles and techniques of prominent as well as lesser known producers, and to provide students with opportunities to build on production skills learned in "Hip Hop Music Production: History and Practice 1". Students will have the opportunity to produce hip hop in a number of different styles, as well as to learn mixing and mastering techniques used to bring a recording project to completion.

**Prerequisite(s):** Completion of Hip Hop Music Production 1 needed, PY.350.409[C].

Area: P, Y

### **PY.350.421. Mixing Electronic Music. 3 Credits.**

This course builds on the skills learned in Introduction to Computer Music to focus on the art mixing. Students will learn the techniques and tools behind making a great mix, starting with the fundamentals of EQs, compressors, filters, distortion, etc and expanding to explore creative applications of these tools. This project-based course will combine focused assignments designed to gain an understanding of the tools of the mixing studio and personal mix projects that showcase the student's personal voice as a producer. **PREREQUISITES:** Intro to Computer Music 1 and 2

**Prerequisite(s):** Intro to Computer Music 1 and 2

### **PY.350.463. Introduction to Computer Music. 3 Credits.**

A study of the techniques, repertoire, and aesthetics of computer music. Composition and research projects are completed using the resources of the Computer Music Studios. Participation in at least one public program.

Area: P, Y

### **PY.350.464. Introduction to Computer Music 2. 3 Credits.**

A study of the techniques, repertoire, and aesthetics of computer music. Composition and research projects are completed using the resources of the Computer Music Studios. Participation in at least one public program.

**Prerequisite(s):** Completion of Introduction to Computer Music 1 needed, PY.350.463[C].

Area: P, Y

### **PY.350.466. Introduction to Programming. 3 Credits.**

This course is designed for musicians and digital artists who wish to learn Multimedia Programming. We will use P5js programming language to examine techniques and algorithms to manipulate sounds, images, movies, text and web pages. Also, we will learn to acquire and use related open-source programs and libraries to simplify our work. No previous programming experience is required.

Area: P, Y

### **PY.350.545. Computer Music Seminar (UG). 1 Credit.**

The seminar focuses on the work of student and faculty composers, with class discussion of on current developments in the field of computer music. Required for computer music majors. Open to others with permission of the faculty.

**Prerequisite(s):** Computer Music majors only. Non-majors interested in auditing the course should email department chair approval to peabodyregsitar@jhu.edu.

### **PY.350.546. Computer Music Seminar (UG). 1 Credit.**

The seminar focuses on the work of student and faculty composers, with class discussion of on current developments in the field of computer music. Required for computer music majors. Open to others with permission of the faculty.

**Prerequisite(s):** Computer Music majors only. Non-majors interested in auditing the course should email department chair approval to peabodyregsitar@jhu.edu.

### **PY.350.691. Master's Thesis. 2 Credits.**

A scholarly work describing the author's research activities as required for the Research track of the MM program in Computer Music.

**Prerequisite(s):** Computer Music majors only.;Completion of or co-enrollment in Research Practicum required, PY.350.842[C].

### **PY.350.693. Portfolio. 2 Credits.**

The completion and submission of works of major proportions that utilize computer technology as required by the Master of Music degree program in Computer Music. The compositions must be written during your tenure at Peabody and be approved by your major teacher and departmental faculty. Graded on a S/U basis.

**Prerequisite(s):** Computer Music - Composition Track majors only.

### **PY.350.835. Studio Techniques. 3 Credits.**

A course that covers advanced computer music studio techniques. Topics include stereo and surround sound microphone techniques, Ambisonic and Atmos multichannel diffusion, network audio, fft-based spectral processing, concert production, and audio Mastering. **Prerequisite:** Completion of Introduction to Computer Music 2 and Mixing Electronic Music (Undergraduate Only)

**Prerequisite(s):** Completion of Introduction to Computer Music 2 and Mixing Electronic Music (Undergraduate Only);Computer Music majors only.

Area: P, Y

### **PY.350.837. Digital Music Programming 1. 3 Credits.**

This course teaches computer programming theory and skills pertaining to computer music composition, performance, and research. The primary focus of the course is the Max/MSP/Jitter suite of programming tools. **Prerequisite:** Undergraduates must have completed Introduction to Computer Music

**Prerequisite(s):** Undergraduates must have completed Introduction to Computer Music

**Corequisite(s):** Students must co-register in Synthesis Theory 1, PY.350.867[C].

Area: P, Y

### **PY.350.838. Digital Music Programming 2. 3 Credits.**

This course will offer an introduction to computer-based music making with the audio programming language SuperCollider. We will explore the potentials of SC, including sound synthesis, composing with algorithmic patterns, and the use of hardware controllers to manipulate live audio processes. The course will offer a mixture of lecture, workshop and listening sessions, providing both a historical and theoretical context to digital music programming.

Area: P, Y

**PY.350.840. History of Electroacoustic Music. 3 Credits.**

The History of Electroacoustic Music is an overview of the development of electroacoustic music in the twentieth century. Intended for the student with little or no knowledge of this field's history and literature, the course is designed to provide a general familiarity with the major trends and developments as well as to allow for more detailed study on topics of particular interest to the class.

**Prerequisite(s):** Computer Music majors only.

Area: P, Y

**PY.350.841. Research Practicum. 4 Credits.**

An intensive course for those following the computer music research/technology track. Substantial individual projects will be pursued. Enrollment by permission of the instructor.

**Prerequisite(s):** Computer Music - Research Track majors only.

Non-Research Track Computer Music majors may take course with department approval.

**PY.350.842. Research Practicum. 4 Credits.**

An intensive course for those following the computer music research/technology track. Substantial individual projects will be pursued. Enrollment by permission of the instructor.

**Prerequisite(s):** Computer Music - Research Track majors only.

Non-Research Track Computer Music majors may take course with department approval.

**PY.350.845. Computer Music Seminar (GR). 1 Credit.**

The seminar focuses on the work of student and faculty composers, with class discussion of on current developments in the field of computer music. Required for computer music majors. Open to others with permission of the faculty.

**Prerequisite(s):** Computer Music majors only. Non-majors interested in auditing the course should email department chair approval to [peabodyregsitrar@jhu.edu](mailto:peabodyregsitrar@jhu.edu).

**PY.350.846. Computer Music Seminar (GR). 1 Credit.**

The seminar focuses on the work of student and faculty composers, with class discussion of on current developments in the field of computer music. Required for computer music majors. Open to others with permission of the faculty.

**Prerequisite(s):** Computer Music majors only. Non-majors interested in auditing the course should email department chair approval to [peabodyregsitrar@jhu.edu](mailto:peabodyregsitrar@jhu.edu).

**PY.350.867. Synthesis Theory 1. 2 Credits.**

Synthesis Theory explores advanced topics in digital music making. Each term will focus on one or more themes. The fall section of the course covers musical robotics and instrument building using the Arduino platform. Students will have use of the maker space in the Computer Music Studios to complete their projects.

**Corequisite(s):** Students must co-register in Digital Music Programming 1, PY.350.837[C].

Area: P, Y

**PY.350.868. Synthesis Theory 2. 2 Credits.**

Synthesis Theory 2 explores advanced topics in Digital Signal Processing, including advanced synthesis techniques, Fourier transforms, and machine listening and machine learning. Corequisite: Students must co-register for Digital Music Programming 2 or have permission of the instructor.

**Prerequisite(s):** Students must co-register for Digital Music Programming 2 or have permission of the instructor. PY.350.838[C]

Area: P, Y