

# MUSIC (MUSI)

## **MUSI 6001. Music Perception and Cognition. 3 Credit Hours.**

This course examines how humans process musical sound, including topics such as the auditory system, psychacoustics, music cognition, and psychology.

## **MUSI 6002. Computer Supported Interactive Music. 3 Credit Hours.**

Theoretical and practical issues in computer supported interactive music. The course involves readings, class discussions, student presentations, and the design of a final project.

## **MUSI 6003. Music Technology History and Repertoire. 3 Credit Hours.**

Overview of the history, aesthetics, and technology of electronic and computer music over the past century through selected readings, musical analysis, and individual research projects.

## **MUSI 6004. Technology Ensemble. 3 Credit Hours.**

Practice and performance of original and repertoire works in live audio settings using commercial and propriety technology.

## **MUSI 6005. Music Ensemble for Graduate Students. 1 Credit Hour.**

The graduate level of any music ensemble.

## **MUSI 6103. Music Recording and Mixing. 3 Credit Hours.**

Overview of concepts, techniques, hardware, and software used in audio production as well as aesthetic concerns and considerations.

## **MUSI 6104. Integrating Music into Multimedia. 3 Credit Hours.**

To familiarize students with the tools and techniques for effectively utilizing music and audio in the context of digital multimedia and the internet.

## **MUSI 6105. Digital Media Production and Mastering. 3 Credit Hours.**

Tools and techniques for effectively mastering, optimizing, finalizing, and producing digital media for multimedia and the Internet.

## **MUSI 6106. Audio Software Engineering. 3 Credit Hours.**

Introduction to software engineering for audio-related software projects, covering the main aspects of music software production with a focus on music processing, audio plugin interfaces, and real-time systems.

## **MUSI 6201. Audio Content Analysis. 3 Credit Hours.**

This class addresses theory and techniques of Music Information Retrieval (MIR). Topics include computational analysis of audio signals, symbolic representations, and pattern recognition techniques. Credit will not be awarded for both MUSI 6201 and MUSI 4457.

## **MUSI 6202. Digital Signal Processing for Music Analysis and Synthesis. 3 Credit Hours.**

Research in music, as well as music production and composition increasingly relies on sophisticated digital signal processing techniques. This course will review fundamental elements of digital audio signal processing, such as sinusoids, spectra, digital filters, and Fourier analysis and their application to the fundamental music analysis problems of modeling and synthesis. The course will focus particularly on the algorithmic implementation sound transformation and synthesis techniques through intensive programming assignments in Matlab and CSound.

## **MUSI 6203. Project Studio in Music Technology. 3 Credit Hours.**

Discussion, design and development of computer music applications and performance controllers.

## **MUSI 6204. Computational Music Analysis: Symbolic. 3 Credit Hours.**

Introduction to computational music analysis for symbolic-music data, covering the main aspects of symbolic data representations, softwares and toolkits, and common methodologies in computational musicology.

## **MUSI 6301. Music Interface Design. 3 Credit Hours.**

Theory and practice of designing and prototyping new forms of music interfaces including percussion, haptic, and augmented traditional constructs.

## **MUSI 6304. Computer Music Composition. 3 Credit Hours.**

Realization of individual composition projects in music technology and consideration of related theory, aesthetics, and repertoire. Credit will not be awarded for both MUSI 6304 and MUSI 4458.

## **MUSI 7000. Master's Thesis. 1-21 Credit Hours.**

Advisor guided thesis writing.

## **MUSI 7100. Music Technology Research Laboratory. 1-21 Credit Hours.**

Advisor guided research and creative work in music technology. Investigation of novel technological and artistic concepts. Design and develop new hardware, software, and musical artifacts.

## **MUSI 7998. Preparation for Qualifying Paper. 1-21 Credit Hours.**

Preparation of qualifying paper for Ph.D. in Music Technology.

## **MUSI 7999. Preparation for Qualifying Examination. 1-21 Credit Hours.**

Preparation for qualifying examinations for Ph.D. in Music Technology.

## **MUSI 8001. Research Methods. 3 Credit Hours.**

Theoretical and practical issues in music technology research including design patterns, data sets, quantitative and qualitative evaluation standards, proper citation, and print and oral presentation.

## **MUSI 8002. Apprentice Teaching. 3 Credit Hours.**

Pedagogical approaches to music technology, focusing on hands-on teaching experience.

## **MUSI 8801. Special Topics. 1 Credit Hour.**

Topics of current interest.

## **MUSI 8802. Special Topics. 2 Credit Hours.**

Topics of current interest.

## **MUSI 8803. Special Topics. 3 Credit Hours.**

Topics of current interest.

## **MUSI 8804. Special Topics. 4 Credit Hours.**

Topics of current interest.

## **MUSI 8805. Special Topics. 5 Credit Hours.**

Topics of current interest.

## **MUSI 8901. Special Problems. 1-21 Credit Hours.**

individualized study with an advisor.

## **MUSI 8902. Special Problems. 1-21 Credit Hours.**

Individualized study with an advisor.

## **MUSI 8903. Special Problems. 1-21 Credit Hours.**

individualized study with an advisor.

## **MUSI 8997. Teaching Assistantship. 1-21 Credit Hours.**

Independent research conducted under the guidance of a faculty member.

## **MUSI 8998. Research Assistantship. 1-21 Credit Hours.**

Independent research conducted under the guidance of a faculty member.

## **MUSI 9000. Doctoral Thesis. 1-21 Credit Hours.**