

Audio Technology Courses

ATEC-101 Fundamentals of Audio Technology

Students learn about the generation, transmission, and detection of sound; properties of sounds; history and aesthetics of electro-acoustic music and components; anatomy of audio equipment; professions in the field of audio technology; and the global structure of audio related industries. Students will apply basic recording and editing techniques in the completion of audio and audiovisual projects. Taken concurrently with ATEC-102. Prerequisite: Instructor permission.

ATEC-102 Fundamentals of Audio Technology Lab

Students in this class apply recording and editing techniques discussed in class to real world music. The students will also learn basic compression, digital signal processing techniques. Taken concurrently with ATEC-101. Prerequisite: Instructor permission.

ATEC-301 Digital Audio Workstations 1

This course provides intermediate level students with fundamental knowledge of the basic principles of non-linear digital audio editing software. Topics include creating and managing digital audio workstation sessions, importing media, basic editing and mixing techniques, external controllers, managing sessions and tracks, recording and editing MIDI and audio, timescaling, and automation. Upon completion of the course, students take an exam that provides them with an internationally recognized Digidesign Protools basic certification. Usually offered every semester. Prerequisite: ATEC-101 and ATEC-102.

ATEC-311 Sound Studio Techniques 1

This course explores multi-track recording techniques as applied to professional sound systems. Studio consoles, signal path, microphone configuration and placement, signal to noise ratio, and other relevant topics will be studied. Students gain experience with hands on projects. Usually offered every fall. Prerequisite: ATEC-301.

ATEC-321 Sound Synthesis 1

This course examines various types of synthesis including additive, subtractive, wavetable, frequency modulation, and granular synthesis techniques. Other topics covered will include the MIDI protocol, modular synthesis configurations, software based synthesis, and instrument and patch design. Includes hands on experiences and projects with software and hardware synthesizers. Usually offered every fall. Prerequisite: ATEC-301.

ATEC-401 Digital Audio Workstations 2

This course is a continuation of provides materials presented in ATEC-301 and provides students with more advanced knowledge of the principles of non-linear digital audio editing software. Topics include analyses of digital audio workstation systems, high end user systems and interfaces, editing and mixing techniques, external controllers, managing sessions and tracks, recording and editing MIDI and audio, and advanced automation techniques. Upon completion of the course, students take an exam which provides them with an internationally recognized Digidesign Protools operator certification. Prerequisite: ATEC-301.

ATEC-403 Production Mixing and Mastering

This course explores effective mastering techniques and digital signal processing techniques with non-linear digital audio software. Topics covered will be advanced equalization techniques, advanced filtering techniques, delay, compression and spatialization. Prerequisite: ATEC-401.

ATEC-411 Sound Studio Techniques 2

This course examines advanced multi-track recording techniques as applied to professional sound systems. Studio consoles, magnetic tape recording, signal-processing equipment, room acoustics, noise reduction systems, multi-track recorder alignment, and test equipment will be studied. Usually offered every fall. Prerequisite: ATEC-311.

ATEC-421 Sound Synthesis 2

This course applies synthesis techniques to patch design on virtual instruments. Students will also learn advanced MIDI concepts through the creation of original sequences. Students will also explore current trends and real world applications of materials through original projects. Usually offered every spring. Prerequisite: ATEC-321.

ATEC-431 Studio Management

Students learn troubleshooting in regard to audio technology equipment and software. Topics covered include tape head realignment and maintenance, tracing signal flow problems, soldering techniques, and power/grounding issues. Students will cooperatively learn and collaborate on a final project, assembling a functional recording studio from malfunctioning components. Prerequisite: ATEC-101.

ATEC-441 Business of the Audio Industry

The course is an examination of the structure and workings of the audio industry. Topics include songwriter/publisher contracts, copyright; music licensing, scope of the audio industry, record markets, record promotion and distribution, recording contracts, the recording studio, music and radio, audio in telecommunications, entertainment law and lawyers, audio in the film industry, film scoring. Prerequisite: ATEC-101.

ATEC-450 Audio Technology Capstone

May be repeated for credit. This course enables students to pursue advanced discipline-specific projects, which may include electro-acoustic instrument design and construction, advanced live sound reinforcement techniques, post-production audio for film and video, audio engineering for compact disc recordings, and electro-acoustic music composition. Usually offered every spring. Prerequisite: ATEC-301 or permission of instructor.