Music Technology

The Music Technology program offers courses for students who wish to earn a certificate or an associate degree in music technology or who plan on transferring as a music major to a four-year institution. Areas of focus include audio production, audio for media, sound reinforcement, and the principles of business in the field of music and media.

Academic and Career Pathway: Creative and Applied Arts

Contact Information

Chair: Matthew Falker
Dean: Jonathan Fohrman
https://www.miracosta.edu/academics/degree-and-certificate-programs/creative-and-applied-arts/music-technology/index.html

Department: Music
Office: Building OC2700, 760.795.6844

Full-Time Faculty

Christy Coobatis
Dan Siegel

Associate Degree

Associate in Arts Degree

Music Technology

Students may earn the above-named associate degree by completing a certificate of achievement and the general education courses required for the Associate in Arts degree (see Associate Degrees). Students should meet with a MiraCosta counselor to identify required courses and to develop a written education plan for the specific degree or certificate they wish to earn.

Program Student Learning Outcome Statement

Upon completion of this program, the student will be able to

- teach methods to use current technologies to create a high-quality musical presentation suitable for broadcast and live sound within a given timeline.
- work within a group to produce an audio recording and live sound presentation using audio equipment, such as mixers, audio recorders, signal processors, patch bays, and microphones.
- choose, position, and configure microphones and preamplifiers to accurately capture, store, amplify and distribute audio.

Certificates

Certificate of Achievement

Music Technology

This certificate prepares students for jobs in the field of audio recording, production, and audio in live performance presentations. The curriculum includes in-depth study of recording arts from general study to production of a final product suitable for presentation within a portfolio. Students learn all aspects of the process from the perspective of a recording engineer to that of a performer.

Program Student Learning Outcome Statement

Upon completion of this program, the student will be able to

- use current technologies to create a high-quality musical presentation suitable for broadcast and live sound within a given timeline.
- work both individually and within a group to produce an audio recording and live sound presentation using audio equipment, such as mixers, audio recorders, signal processors, patch bays, and microphones meeting current industry standards.
- deliver the completed audio presentation within current, commonly accepted distribution methods such as fixed-media movable storage (e.g., flash drive, disks) or mainstream Internet delivery sites (e.g., Dropbox, Youtube, Vimeo, and Facebook).

Music technology core coursework:

MTEC 110	Recording Arts I	2
MTEC 111	Recording Arts II	2
MTEC 120	Digital Audio Production I	2
MTEC 130	MIDI	2
MTEC 140	Sound Reinforcement I	2
MTEC 141	Sound Reinforcement II	2
MTEC 150	Audio Equipment Maintenance	2
MTEC 210	Recording Arts III	2
MTEC 211	Recording Arts IV	2
MTEC 220	Digital Audio Production II	2
MTEC 230	Electronic Music and Sound Design	2
Choose 3 units from the following music theory and performance training courses:		3
MUS 100	Introduction to Music Theory	
MUS 120	Piano I	
MUS 121	Piano II	
MUS 130	Guitar I	
MUS 131	Guitar II	
MUS 141	Vocal Fundamentals	
MUS 161A	Concert Chorale I	
Select one course from the following:		2-3
MTEC 160	Business of Music and Media I	
MUS 260	Commercial Music Composition	
Select at least one course from the following for a minimum of 2 units:		2-3
MTEC 292	Internship Studies	
MTEC 299	Occupational Cooperative Work Experience	
BUS 130	Entrepreneurship and Small Business Management	
BUS 132	Marketing	
BUS 138	Business Promotion	
COMM 106	Group Communication	
CS 150	C++ Programming	
CS 151	Advanced C++ Programming	
CSIT 110	Computer Applications	
CSIT 120	Fundamentals of Computer Information Systems	

CSIT 155	Social Media for Business	
CSIT 160	Technology, the Individual, and Society	
DRAM 110	Voice and Diction	
FILM 101	Introduction to Film	
or FILM 101H	Introduction to Film (Honors)	
MAT 120	Media Design 1: Production	
MAT 125	Web Design 1: Fundamentals	
MAT 150	Animation and Interactivity	
MAT 160	Video 1: Production	
MAT 165	Web Design 2: WordPress and Site Production	
MAT 290	Portfolio Development	
Total Units		**29-31**

Certificate of Achievement

Business of Music and Media

This program begins with the fundamentals of intellectual property and contract law and expands to the strategies of exploitation of creative works in today's marketplace. Students who complete the Business of Music and Media program can apply their skills to professional positions in all facets of the entertainment industry.

Program Student Learning Outcome Statement

Upon completion of this program, the student will be able to

- demonstrate an understanding of intellectual property laws as they specifically apply to the entertainment industry.
- understand the process of affiliation with the appropriate organizations for the registration and collection of copyright royalties.
- demonstrate the ability to understand and interpret contracts and terminology specifically found in the entertainment industry.

Required courses:		
FILM 112	Film History II: 1945-Present	3
or FILM 112H	Film History II: 1945-Present (Honors)	
MTEC 160	Business of Music and Media I	3
MTEC 260	Business of Music and Media II	2
MUS 112	American Popular Music	3
Business Electives - select nine units from the following:		9
BUS 130	Entrepreneurship and Small Business Management	
BUS 131	Management Principles	
BUS 136	Human Relations in Business	
BUS 140	Legal Environment of Business	
or BUS 140H	Legal Environment of Business (Honors)	
Internship - select two units from the following:		2
MTEC 292	Internship Studies	
MUS 292	Internship Studies	
Total Units		**22**

Certificate of Proficiency

Music Technology

The Music Technology Certificate is designed to provide concepts and application of principles needed to successfully operate and maintain audio equipment. The curricula ranges from the recording studio to stage and touring. Upon successful completion a student will possess skills necessary for employment as an audio technician, producer, engineer and music products salesperson.

Program Student Learning Outcome Statement

- Upon completion of this program, a student will be able to achieve proficiency in various aspects of music technology such as equipment setup, procurement, and application.

Required courses:		
DRAM 141	Lighting Design for Theatre, Television, and Film	3
or MTEC 160	Business of Music and Media I	
MTEC 110	Recording Arts I	2
MTEC 120	Digital Audio Production I	2
MTEC 130	MIDI	2
MTEC 140	Sound Reinforcement I	2
MTEC 150	Audio Equipment Maintenance	2
Total Units		**13**

Courses

MTEC 110: Recording Arts I
Units: 2
Prerequisites: None
Advisory: MTEC 120, MUS 100, and MUS 144A.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall, Spring, and Summer

This first in a sequence of four recording arts courses presents an introductory overview of the audio production process. Topics include the physics of sound, transducers, audio processors, and recording-studio logistics. C-ID CMUS-130X.

MTEC 111: Recording Arts II
Units: 2
Prerequisites: MTEC 110 and MTEC 120.
Enrollment Limitation: Concurrent enrollment in MTEC 120 if MTEC 120 prerequisite not met.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall, Spring

This is the second in a series of four courses designed as the study of the theory and application of methods and tools in the field of recording arts and audio production.

MTEC 120: Digital Audio Production I
Units: 2
Prerequisites: None
Advisory: MTEC 110.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall, Spring

This course is a survey of the various procedures and technology used in contemporary audio production in the digital domain. Course work includes the Avid Pro Tools 101 Certification Test. Students are required to own or have ongoing personal access to a working copy of the Avid ProTools Digital Audio Software application and a suitable computer. C-ID CMUS-120X.

MTEC 130: MIDI
Units: 2
Prerequisites: None
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall, Spring

This survey course explores the full range of Musical Instrument Digital Interface (MIDI) capable software and hardware including associated production techniques for music composition, performance, and recording.

MTEC 140: Sound Reinforcement I
Units: 2
Prerequisites: None
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall

This course provides an overview of live concert sound reinforcement. Topics include theory and application of individual sound system components, such as microphones, mixers, amplifiers, wireless microphones and speakers.

MTEC 141: Sound Reinforcement II
Units: 2
Prerequisites: MTEC 140.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Spring

This course covers advanced topics in sound system design, stage management/organization, and sound checks. Topics include troubleshooting, live concert recording, and live concert interfacing with wireless microphones, MIDI, and video systems.

MTEC 150: Audio Equipment Maintenance
Units: 2
Prerequisites: None
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Spring

This course introduces audio maintenance, calibration, and minor repair as well electronic building tips as they pertain to music, theater, and related application of practical electronics. Students learn basic electronic principles and how they relate to signal flow and troubleshooting in various audio and related technical environments. Topics include signal path, circuit testing, component matching, power rating, and parallel and series type wiring as well as hands-on work with basic electronic maintenance/repair kits. The course emphasizes safety issues with electricity.

MTEC 160: Business of Music and Media I
Units: 3
Prerequisites: None
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall

This course explores the essential topics relevant to participation in the contemporary music and media industry: intellectual property rights, copyright law, publishing administration, performing rights organizations, music licensing, contracts, and artist representation. C-ID CMUS-140X.

MTEC 210: Recording Arts III
Units: 2
Prerequisites: MTEC 111.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall

This third in a four-course sequence provides an in-depth technical and applied study of recording techniques covered in the previous recording arts courses. Topics include effects and dynamics processing and complex routing used in the context of the multi-track recording and mixdown. Students work within a group and utilize studio time to complete assignments within a given timeline.

MTEC 211: Recording Arts IV
Units: 2
Prerequisites: MTEC 210.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Spring

This fourth and final course in the recording arts technology sequence involves technical, personnel, and musical elements for final production of commercial music projects. Students individually organize and complete an outlined production of a workforce-ready product in a multi-track recording facility.

MTEC 220: Digital Audio Production II
Units: 2
Prerequisites: MTEC 120.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Spring

This course is an in-depth study of advanced digital audio production techniques in the Avid Pro Tools software environment. Specific subject areas include system setup, multi-track recording, editing, mixing, mastering, and the synchronization of audio with video. Course work includes the Avid Pro Tools 110, and 201 certification tests. Students are required to own or have ongoing personal access to a working copy of the Avid ProTools Digital Audio Software application and a suitable computer.

MTEC 230: Electronic Music and Sound Design
Units: 2
Prerequisites: MTEC 130.
Acceptable for Credit: CSU
Lecture 1.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall, Spring

This course provides an in-depth study and application of computer-generated and controlled sound devices within the current MIDI standard as defined by the MIDI Manufacturer's Association. Topics include the MIDI data stream and current specification, sound synthesis, networked MIDI systems, programming sound and stage control parameters, advanced music sequencer operation, and editing. Students program integrated MIDI systems for music composition, recording, and performance.

MTEC 260: Business of Music and Media II
Units: 2
Prerequisites: MTEC 160.
Acceptable for Credit: CSU
Lecture 2 hours.
Course Typically Offered: Spring

Catalog Description This second in a two course series covers effective methods of exploitation and monetization of creative works in the current industry marketplace. Specific topics include careers in music and media, independent music production and distribution, synchronization and licensing, music submissions, marketing and publicity, and attaining practical goals.

MTEC 292: Internship Studies
Units: 0.5-3
Prerequisites: None
Corequisite: Complete 75 hrs paid or 60 hrs non-paid work per unit.
Enrollment Limitation: Instructor, dept chair, and Career Center approval. May not enroll in any combination of cooperative work experience and/or internship studies concurrently.
Acceptable for Credit: CSU
Course Typically Offered: To be arranged

This course provides students the opportunity to apply the theories and techniques of their discipline in an internship position in a professional setting under the instruction of a faculty-mentor and site supervisor. It introduces students to aspects of the roles and responsibilities of professionals employed in the field of study. Topics include goal-setting, employability skills development, and examination of the world of work as it relates to the student's career plans. Students must develop new learning objectives and/or intern at a new site upon each repetition. Students may not earn more than 16 units in any combination of cooperative work experience (general or occupational) and/or internship studies during community college attendance.

MTEC 296: Topics in Music Technology
Units: 1-3
Prerequisites: None
Acceptable for Credit: CSU
Lecture 1 hour.
Lecture 2 hours.
Lecture 3 hours.
Course Typically Offered: To be arranged

This course gives students an opportunity to study topics in Music Technology that are not included in regular course offerings. Each Topics course is announced, described, and given its own title and 296 number designation in the class schedule.

MTEC 299: Occupational Cooperative Work Experience
Units: 1-4
Prerequisites: None
Corequisite: Complete 75 hrs paid or 60 hrs non-paid work per unit.
Enrollment Limitation: Career Center approval. May not enroll in any combination of cooperative work experience and/or internship studies concurrently.
Acceptable for Credit: CSU
Course Typically Offered: To be arranged

Cooperative Work Experience is intended for students who are employed in a job directly related to their major. It allows such students the opportunity to apply the theories and skills of their discipline to their position and to undertake new responsibilities and learn new skills at work. Topics include goal-setting, employability skills development, and examination of the world of work as it relates to the student's career plans. Students may not earn more than 16 units in any combination of cooperative work experience (general or occupational) and/or internship studies during community college attendance.