

Minor in Music Technology

The Minor in Music Technology is a program of study in the application of computer technologies to creative work in sound synthesis and programming designs, as these apply to computer-based musical instruments ("virtual instruments") and human-computer interfaces used in electronic music composition and performance.

Note: this minor is not a vocational or professional program in live concert sound, recording studio engineering and management, nor commercial music production. The minor provides a creative musical arts and design experience as a liberal arts enrichment that may complement the professional preparation provided by a student's major.

In addition to the core courses, students are encouraged to select electives that provide:

- a broadening of musical experience through courses in music theory, history, literature, and performance
- a stronger technical foundation through courses in computer programming, electronics, or software engineering

The minor is fulfilled by earning 15 credits as follows:

Course titles shown reflect changes as of the 2017 catalog. The course numbers are what matter for your program of study and degree audit, and these have not changed.

1. 8 credits: Music Technology Core

Music 246 Introduction to Creative Digital Music, Cr. 2
Music 346 Computer Music Programming Design, Cr. 3
Music 446 Sound Synthesis Design for Electronic Music, Cr. 3.

2. 7 credits: Technology and *Music electives:

Com S 107. Applied Computer Programming	** Music 101. Fundamentals of Music
Com S 207. Programming I	Music 102. Introduction to Music Listening
Com S 208. Programming II	** Music 105. Basic Musicianship
Com S 227. Intro. to Object-oriented Programming	Music 118. Applied Music: Non-majors
Com S 228. Introduction to Data Structures	*** Music 120: Intro. Music Literature & Styles
Com S 229. Advanced Programming Techniques	Music 222. Aural Theory 1
Com S 309. Software Development Practices	Music 224. Music Theory 1
Cpr E 329. Software Project Management	Music 232. Aural Theory 2
E E 201. Electric Circuits	Music 234. Music Theory 2
E E 224. Signals and Systems I	*** Music 302. Advanced Music Listening
E E 324. Signals and Systems II	Music 304. History of Rock 'n' Roll
E E 424. Introduction to Digital Signal Processing	Music 318. Applied Music: Non-majors
M E 451. Engineering Acoustics	Music 331. Music Theory 3
Phys 198. Physics of Music	Music 332. Aural Theory 3
S E 319. Software Constr. and User Interfaces	Music 337. Music Theory 4
	Music 338. Aural Theory 4
	Music 383. History of Music I
	Music 384. History of Music II
	Music 472. History of American Music

* Music majors seeking this minor may not count in the fifteen credits music courses comprising the minor other than 246, 346, 446, 490I, and 593I. A Bachelor of Music major may not count Phys 198 in this minor.

** only one of Music 101 and 105 may be counted in the minor, *** only one of 120 and 304 may be counted in the minor

3. At least six of the fifteen credits must be taken at Iowa State University in courses numbered 300 or above with a grade of C or higher. The minor must include at least nine credits that are not used to meet any other department, college, or university requirement.

About the Elective Courses

This minor includes elective courses in computer programming and engineering for students who will use these electives to establish a stronger technical foundation in connection with their individual goals for the minor. Students for whom these courses are required by their major are encouraged to select other courses for the minor.

Advanced electives in music theory, history, literature, and performance are included for qualified non-majors. These courses provide contact with more advanced musical concepts and skills that would be incorporated in software and interface design for music. See below for courses that require auditions or permission of instructor.

Elective Music Courses that Require Auditions, Permission of Instructor, or Prerequisites

Courses for music majors may be available to music technology majors by permissions of instructor, subject to enrollments and prerequisites. Courses in applied music (vocal or instrumental study) for non-majors require auditions. Contact the music department office for information about requirements.

- Music 118. Applied Music: Non-majors (audition, permission of instructor required)
- Music 120. Intro. Music Literature and Styles*** (prereq: 221)
- Music 222. Introduction to Aural Theory (permission of instructor required)
- Music 224. Music Theory I (permission of instructor required)
- Music 232. Aural Theory I (permission of instructor required)
- Music 234. Music Theory II (prereq: 224)
- Music 302. Advanced Music Listening***
- Music 318. Applied Music: Non-majors (audition, permission of instructor required)
- Music 331. Materials of Music II (prereq: 231)
- Music 332. Aural Theory II (prereq: 232)
- Music 337. Materials of Music III (prereq: 331)
- Music 338. Aural Theory III (prereq: 332)
- Music 383. History of Music I (prereq: 120)
- Music 384. History of Music II (prereq: 383)

Special Restrictions for Music Majors

A special case of a major in music (Bachelor of Arts or Bachelor of Music) earning this minor is treated as follows:

No music courses other than those in music technology core (246, 346, 446) and approved independent study (490) may be counted in the minor. A major in music therefore will obtain a minor that has a minimal overlap with the major, the supporting courses being taken from non-majors courses in computer science and software engineering, or as qualified from related courses in computer science and engineering.

Note: because Phys 198 is required in the major, it may not be counted by music majors as an elective in a music technology minor.