Minors Offered by the College of Fine Arts

The College of Fine Arts offers minors in Architecture, Art, Design, Drama, and Music to students from other colleges at Carnegie Mellon University. These minors allow students at Carnegie Mellon to take courses and develop a direction for electives in any of the five schools in CFA. Students in the College of Fine Arts may also earn minors outside of their major within other schools in the College. They may also study any of the minors offered by the other colleges to the University at large, thus taking advantage of the broad educational opportunities available at Carnegie Mellon University.

Minors Offered by the College of Fine Arts:

- Architecture
- Architectural Design Fabrication (available only to B. Arch candidates)
- Architectural History (available also to B. Arch candidates)
- Architectural Representation and Visualization (available also to B. Arch candidates)
- Architectural Technology
- Art
- Building Science (available only to B. Arch candidates)
- Communication Design
- Drama
- History of the Arts
- Industrial Design
- Music
- Music Technology
- Music Theory
- Musicology
- Photography
- Sound Design

Guidelines for students are: 1) except where so designated, CFA students are not eligible to earn a minor in their own school; students from outside CFA may earn a minor in any school in CFA; 2) faculty advisors in the student’s home school (in consultation with the academic officer of the other unit involved) will advise students as to the structuring of the courses in each minor; 3) a minor is not to be considered an overload; rather, through the assistance of faculty advisors it should be integrated into a student’s overall units required for graduation; 4) the advisors will also monitor the student’s development in these minors and keep records in their files which indicate the fulfillment of the course requirements in the minors, as well as in the majors in the student’s own school. Courses listed as possible for the minors may be available, but not all courses are offered every semester. Students should consult with their advisors.

Students interested in earning a minor in any of the CFA schools should contact: Architecture: Heather Workinger; Art: Keni Jefferson; Design: Melissa Cicozi; Drama: Amy Nichols; Music: Sharon Johnston.

Minors under Architecture

Minor in Architecture

This sequence is for candidates who intend to develop particular skills in architectural representation. The Minor in Architectural Representation and Visualization is intended for those students that want to deepen their knowledge in architectural representation and media and for those who are interested in gaining advanced placement (AMP) in the M.S. programs offered by the School in the areas of Computational Design, Tangible Interaction Design and/or Emerging Media. It is earned by completing the four required courses and the three core required courses in architectural representation and visualization. This sequence is intended for candidates interested in the history of architectural representation and visualization. The Minor in Architectural Representation and Visualization must complete the required 33 units and at least an additional 30 units to fulfill the minor for a total of 63 units. Students in Architectural Representation and Visualization must complete the required 33 units and at least an additional 30 units to fulfill the minor for a total of 63 units. Students wishing to pursue the minor should meet with the Architecture advisor to determine if a course is eligible.

Required Courses

- 48-121 Drawing I 6
- 48-125 Digital Media II 6
- 48-126 Drawing II 6
- 48-126 Drawing II 6
- 48-175 Descriptive Geometry 9
- 48-215 Materials and Assembly 9
- 48-351 Human Factors in Architecture 9
- 48-324 Structures/Statics 9
- 48-452 Real Estate Design and Development 6
- 48-453 Urban Design Methods 6
- 48-383 Ethics and Decision Making in Architecture 6
- 48-xxx Architecture History (Pre-Approval of coursework required) 9
- 48-xxx Architecture Elective (Pre-Approval of coursework required) 9

Minimum Units: 54

*Students should consult the Architecture advisor regarding elective choices.

Minor in Architectural History

This sequence is intended for candidates interested in the history of architecture in its many manifestations, including high style and vernacular buildings, western and non-western traditions, built and theoretical works, and rural to urban contexts. Non-architecture majors are required to take 54 units of architectural history. Architecture majors wishing to minor in Architectural History must fulfill the three core required courses in architectural history, plus four additional architectural history electives, for a total of 63 units. Students wishing to pursue the minor should meet with the Architecture advisor to determine course eligibility for electives.

Required Courses

- 48-240 Historical Survey of World Architecture and Urbanism I 9
- 48-241 Modern Architecture 9

Elective Courses

- 36 units/45 units

Students wishing to pursue the minor should meet with the Architecture advisor to determine course eligibility for electives.

Minimum Units: 54 (non architecture majors)

Minimum Units: 63 (architecture majors)

Minor in Architectural Representation and Visualization

This sequence is for candidates who intend to develop particular skills in architectural representation. The Minor in Architectural Representation and Media is intended for those students that want to deepen their knowledge in architectural representation and media and for those who are interested in gaining advanced placement (AMP) in the M.S. programs offered by the School in the areas of Computational Design, Tangible Interaction Design and/or Emerging Media. It is earned by completing the four required courses and then an additional three elective courses in these areas. Architecture majors wishing to pursue a Minor in Architectural Representation and Visualization must complete the required 33 units and at least an additional 30 units to fulfill the minor for a total of 63 units.

Required Courses

- 24 units

- 48-120 Digital Media I 6
- 48-125 Digital Media II 6
- 48-121 Drawing I 6
- 48-126 Drawing II 6

Elective Courses

- 30-39 units

- 48-568 Advanced CAD, BIM, and 3D Visualization 9
- 48-576 Mapping Urbanism 9
- 48-724 Scripting and Parametric Design 6
Minors Offered by the College of Fine Arts

48-3xx  Architectural Drawing Elective (Pre-Approval of coursework required)  9
48-xxx  Architectural Representation/Visualization Elective: (Pre-Approval of coursework required)  9
48-xxx  Architectural Representation/Visualization Elective: (Pre-Approval of coursework required)  9

**Minimum Units:** 54 (non-architecture majors)

**Minimum Units:** 63 (architecture majors)

Minor in Architectural Technology

This sequence is for candidates who intend to develop intellectual links to the technical aspects of the profession. It is not available to B. Arch Candidates.

Prerequisite Courses  22 units
33-106  Physics I for Engineering Students  12
21-120  Differential and Integral Calculus  10

Elective Courses  32 units
48-116  Building Physics  9
48-215  Materials and Assembly  9
48-324  Structures/Statics  9
48-315  Environment I: Climate & Energy  9
48-432  Environment II: Design Integration of Active Building Systems  9
48-752  Zero Energy Housing  9

**Minimum Units:** 54

Minor in Building Science

(Available only to B. Arch Candidates)

The Minor in Building Science is intended for those students that want to deepen their knowledge in the building sciences and for those who are interested in gaining advanced placement (AMP) in the M.S. programs offered by the School in the areas of Building Performance & Diagnostics and Sustainable Design. It is earned by completing the two required building technology and three environmental science courses and then an additional three elective courses in the building sciences.

\[
\begin{align*}
\text{Required Course} & & 12 \text{ units} \\
48-722 & & \text{Building Performance Modeling} & & 12 \\
\text{Elective Courses} & & 45 \text{ units} \\
48-795 & & \text{LEED, Green Design and Building Rating in Global Context} & & 6 \\
48-721 & & \text{Building Controls and Diagnostics} & & 12 \\
48-723 & & \text{Performance of Advanced Building Systems} & & 9 \\
48-729 & & \text{Productivity, Health and the Quality of Buildings} & & 9-12 \\
48-749 & & \text{Special Topics in CD: Parametric Modeling with BIM} & & \text{Var.} \\
48-752 & & \text{Zero Energy Housing} & & 9 \\
\end{align*}
\]

**Minimum Units:** 63

Minor in Architectural Design Fabrication

(Available only to B. Arch Candidates)

The Minor in Architectural Design Fabrication is intended for those who wish to develop focused, disciplinary expertise in both analog and digital material methods for shaping the built environment and become involved in a community of practice dedicated to a rigorous pursuit of making as a mode of architectural research and cultural expression. It is also for students interested in gaining advanced placement in the SoA’s Master of Advanced Architectural Design (MAAD) program.sciences.

\[
\begin{align*}
\text{Required Courses} & & 33 \text{ units} \\
48-545 & & \text{Making Intelligence} & & 9 \\
48-555 & & \text{Introduction to Architectural Robotics} & & 6 \\
48-xxx & & \text{Advanced Synthesis Options Studio with Digital Fabrication Emphasis} & & 18 \\
\text{Elective Courses} & & 30 \text{ units} \\
48-470 & & \text{Exploring Pattern Through Lamination} & & 6 \\
48-473 & & \text{Hand and Machine Joinery, New Directions} & & 6 \\
48-531 & & \text{Fabricating Customization} & & 9 \\
48-564 & & \text{Furniture Design & Construction} & & 9 \\
48-xxx & & \text{Advanced Design Fabrication} & & 3-9 \\
\text{xx-xxx} & & \text{Pre-approved Design Fabrication Related Course} & & \\
\end{align*}
\]

**Minimum Units:** 63
Minors under Art

Minor in Art

Concept Studio (choose one)  
60-101 Concept Studio: The Self and the Human Being  
60-201 Concept Studio: Space and Time  
60-202 Concept Studio: Systems and Processes  
60-280 Introduction to Contextual Practice  

10 units of Media Studios (choose two)  
60-110 Electronic Media Studio: Introduction to the Moving Image  
60-210 Electronic Media Studio: Introduction to Interactivity  
60-130-60-130 3-D Media Studio I-I  
60-131-60-131 3D Media Studio II-II  
60-150 2D Media Studio: Drawing  
60-160 2D Media Studio: Imaging  
60-250 2D Media Studio: Painting  
60-251 2D Media Studio: Print Media  

20 units of Advanced Media (choose two)  
60-4xx Advanced ETB: Electives  
60-4xx Advanced SIS: Electives  
60-4xx Advanced DP3: Electives  
60-4xx Advanced CP: Electives  

10 units of Art History/Theory (choose one)  
60-1xx Art History Elective  
60-2xx Art History Elective  
60-3xx Art History Elective  

9 units of Minimum units: 59

Minor in the History of Arts

This minor of six or more courses as designated below, will offer students a grouping of Arts History courses that can provide a broad survey in the arts or a highly specialized field. For College of Fine Arts students, all courses meeting the requirements of the Minor in the History of the Arts must be taken outside of their major School, with the exception of the School of Architecture. Interested students should contact Svenja Drouven in the College of Fine Arts, Room 100.

Introductory Level Courses  
(choose at least three, CFA students pick 3 outside of major)  
48-240 Historical Survey of World Architecture and Urbanism I  
51-271 How People Work  
54-239 History of Architecture and Decor 1: Ancients to Gothic  
54-245 History of Clothing 1  
54-246 History of Clothing 2  
57-173 Survey of Western Music History  
60-205 Critical Theory in Art III  
60-206 Critical Theory in Art IV  

27 units of Advanced Courses  
(choose at least three, CFA students pick 3 outside of major)*  
48-340 Modern Architecture and Theory 1900-1945  
48-341 Expression in Architecture  
48-348 Architectural History of Mexico & Guatemala  

27 units of Minimum units: Required: 59

Minor in Media Design – IDeATe

The minor in Media Design is offered by the School of Art as part of the Integrative Design, Arts and Technology (IDeATe) network. IDeATe offers students the opportunity to become immersed in a collaborative community of faculty and peers who share expertise, experience, and passions at the intersection of arts and technology. Students will engage in active “learning by doing” in state-of-the-art maker spaces. The program addresses current and emerging real-world challenges that require disciplinary expertise coupled with multidisciplinary perspectives and collaborative integrative approaches.

The IDeATe undergraduate curriculum consists of eight interrelated concentration areas, all of which can also be taken as minors. The themes of these areas integrate knowledge in technology and arts: Game Design, Animation & Special Effects, Media Design, Learning Media, Sound Design, Innovation and Entrepreneurship, Intelligent Environments, and Physical Computing. For more information about the IDeATe network, please see Undergraduate Options (http://coursecatalog.web.cmu.edu/servicesandoptions/undergraduateoptions/#ideate).

In the Media Design minor, students learn to design digitally mediated experiences across different platforms, from mobile apps to large-scale installations, and for varied applications, from media for daily living to mediated performances.

Curriculum

Required Courses

One Portal Course  
• 15-104 Introduction to Computing for Creative Practice for students in Dietrich College, the College of Fine Arts, and the Tepper School of Business. (DC, CFA, and TS students may take 15-112 Fundamentals of Programming and Computer Science as a substitute for 15-104.)  
• 62-150 (IDeATe: Introduction to Media Synthesis and Analysis for students in the College of Engineering, Mellon College of Science, and School of Computer Science.

Four Collaborative or Supportive Courses

54-498 Expanded Theater Fusion Studio  
60-446 Advanced SIS: Expanded Theater Fusion Studio  
51-236 Information Design  
18-099 Special Topics: Mobile App Design & Development  
15-294 Special Topic: Rapid Prototyping Technologies  
62-478 IDeATe digitoOL  
60-110 Electronic Media Studio: Introduction to the Moving Image  
60-210 Electronic Media Studio: Introduction to Interactivity  
60-412 Interactive Art and Computational Design  
60-441 Advanced CP/SIS: Urban Intervention

9 units of Minimum units required: 54  
* Other courses not on this list may qualify as approved by CFA Dean’s Office (College of Fine Arts, Room 100).
Electives
Students may take a collaborative or supportive course from one of the other IDeATe areas as one of their four collaborative or supportive courses toward the Media Design minor.

Double-Counting Restriction
Students may double-count two of their Media Design minor courses for other requirements.

Minor in Design
Minoring in Design is a great way for students to diversify their studies and incorporate design skills and thinking into their overall academic experiences. Students who are already School of Design majors are not eligible to earn a Design minor. The 54 required units must be unique to the Design minor. No courses may be double counted.

Requirements and Electives
For a design minor, students must complete 54 units: 36 units of required courses, plus 18 units of design electives.

Required Design Courses
Both of these:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>51-262</td>
<td>Communication Design Fundamentals: Design for Interactions for Communications (formerly CDF)</td>
<td>9</td>
</tr>
<tr>
<td>51-264</td>
<td>Product Design Fundamentals: Design for Interactions for Products (formerly IDF)</td>
<td>9</td>
</tr>
</tbody>
</table>

Two of these:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>51-171</td>
<td>Placing</td>
<td>9</td>
</tr>
<tr>
<td>51-172</td>
<td>Systems</td>
<td>9</td>
</tr>
<tr>
<td>51-173</td>
<td>Human Experience in Design</td>
<td>9</td>
</tr>
<tr>
<td>51-271</td>
<td>How People Work</td>
<td>9</td>
</tr>
</tbody>
</table>

Two Design Electives:

51-xxx (9 units)
51-xxx (9 units)

Applications
Students must submit transcripts, personal statements, and completed applications by the beginning of February, and submit portfolios or design projects by the beginning of March. They must also obtain permission to complete minors from their major advisors. The minor application form includes detailed requirements.

Admission depends mainly on a student's demonstration of design skills and aptitude. Students are notified of acceptance by the end of March.

If you are interested in applying for the Minor in Design, please contact Design Advisor, Melissa Cicozi <cicozi@cmu.edu>. You can download the Design Project and Application at www.design.cmu.edu, or paper applications are available at the School of Design office, MMCH 110.
Minor in Drama

The Drama minor provides students with a well-rounded opportunity to obtain preliminary professional exposure to the theatre arts. Courses may involve acting, directing, playwriting, design, production technology and management, and dramatic literature courses. Students also become involved with Drama productions by signing up for Production for Non-Majors, which involves evening crew work on various Drama productions.

Admission Requirements

1. Students must apply to enter the program in the office of the Drama Sr. Academic Advisor, Amy Nichols, PCA 223.
2. The student must successfully pass one Drama course prior to being considered for minor status.

Required Courses 25 units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>54-163</td>
<td>Production for Non Majors</td>
<td>6</td>
</tr>
<tr>
<td>54-175/176</td>
<td>Conservatory Hour</td>
<td>1</td>
</tr>
<tr>
<td>54-177</td>
<td>Foundations of Drama I</td>
<td>6</td>
</tr>
<tr>
<td>54-281</td>
<td>Foundations of Drama II</td>
<td>6</td>
</tr>
</tbody>
</table>

Students must meet with the School of Drama Production Manager (PCA 224) for assignments related to Production for Non-Majors.

Elective Courses 30 units

The remainder of the minor is fulfilled with Drama courses of the student’s choosing, with approval from the Director of Student Services in the School of Drama, Amy Nichols. For certain courses, students may need instructor permission to register.

SAMPLE: Selected Elective Courses not requiring instructor permission:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>54-187</td>
<td>Introduction to Playwriting</td>
<td>9</td>
</tr>
<tr>
<td>54-190</td>
<td>Advanced Playwriting</td>
<td>9</td>
</tr>
<tr>
<td>54-191</td>
<td>Acting for Non-Majors</td>
<td>9</td>
</tr>
<tr>
<td>54-193</td>
<td>Intro to Screenwriting</td>
<td>9</td>
</tr>
<tr>
<td>54-196</td>
<td>Advanced Screenwriting</td>
<td>9</td>
</tr>
</tbody>
</table>

SAMPLE: Selected Elective Courses requiring instructor permission:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>54-109</td>
<td>Dramaturgy 1: Approaches to Text</td>
<td>9</td>
</tr>
<tr>
<td>54-121</td>
<td>Directing I: Sources</td>
<td>9</td>
</tr>
<tr>
<td>54-157</td>
<td>Basic PTM 1</td>
<td>6</td>
</tr>
<tr>
<td>54-169</td>
<td>Studiocraft 1</td>
<td>13</td>
</tr>
<tr>
<td>54-171</td>
<td>Basic Design 1</td>
<td>6</td>
</tr>
</tbody>
</table>

Additional Drama Courses are available by instructor agreement and may require an audition, interview, or portfolio review. Students should contact the Drama Sr. Academic Advisor, Amy Nichols, to inquire about permission for specific courses in which they are interested.

Minimum units required: 55

Minors under Music

Minor in Music

This sequence is for candidates who are majors from any discipline in the university who have some background in music and would like to know more about music technology.

Admission Requirements:

1. The student must apply to enter the program in the office of the Director of Student Services (CFA 108).

Prerequisite Course 0–3 units

Beginning Piano for Minors is required of students who do not pass a beginning piano proficiency test.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-294</td>
<td>Beginning Piano Test</td>
<td>0</td>
</tr>
<tr>
<td>57-329</td>
<td>Beginning Piano for Minors</td>
<td>3</td>
</tr>
</tbody>
</table>

Required Music Courses 25 units

Basic Harmony I and/or Basic Solfege I are required of students who do not qualify for entrance into Harmony I and/or Solfege I, based on their scores on the theory and solfege placement tests. These classes fulfill the harmony and solfege requirements.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-152</td>
<td>Harmony I</td>
<td>9</td>
</tr>
<tr>
<td>57-161</td>
<td>Eurhythms I</td>
<td>3</td>
</tr>
<tr>
<td>57-101</td>
<td>Solfege I</td>
<td>3</td>
</tr>
<tr>
<td>57-173</td>
<td>Survey of Western Music History</td>
<td>9</td>
</tr>
<tr>
<td>57-188</td>
<td>Repertoire and Listening for Musicians</td>
<td>1</td>
</tr>
</tbody>
</table>

Required Studio Courses (studio fee is charged) 24 units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-1xx</td>
<td>Elective Studio</td>
<td>6</td>
</tr>
<tr>
<td>57-1xx</td>
<td>Elective Studio</td>
<td>6</td>
</tr>
<tr>
<td>57-1xx</td>
<td>Elective Studio</td>
<td>6</td>
</tr>
</tbody>
</table>

Elective Courses 18 units

Elective courses are to be chosen from those courses listed for the School of Music in the current course catalog. Performance electives are encouraged. (An audition is required for all School of Music performance ensembles.)

Minimum units required: 67

Minor in Music Technology

This sequence is for candidates who are majors from any discipline in the university who have some background in music and would like to know more about music technology.

Note: Students in the School of Music have slightly different requirements for the Minor in Music Technology. See School of Music (http://coursecatalog.web.cmu.edu/collegeoffinearts/schoolofmusic/#minorinmusictechnologyforstudentsintheschoolofmusic).

Admission Requirements:

The student must apply to enter the program in the office of the Director of Student Services (CFA 108).

Prerequisite Course 0–3 units

Beginning Piano for Minors is required of students who do not pass a beginning piano proficiency test.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-294</td>
<td>Beginning Piano Test</td>
<td>0</td>
</tr>
<tr>
<td>57-329</td>
<td>Beginning Piano for Minors</td>
<td>3</td>
</tr>
</tbody>
</table>

Required Music Courses 25 units

Basic Harmony I and/or Basic Solfege I are required of students who do not qualify for entrance into Harmony I and/or Solfege I, based on their scores on the theory and solfege placement tests. These classes fulfill the harmony and solfege requirements.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-152</td>
<td>Harmony I</td>
<td>9</td>
</tr>
<tr>
<td>57-161</td>
<td>Eurhythms I</td>
<td>3</td>
</tr>
<tr>
<td>57-101</td>
<td>Solfege I</td>
<td>3</td>
</tr>
<tr>
<td>57-173</td>
<td>Survey of Western Music History</td>
<td>9</td>
</tr>
<tr>
<td>57-188</td>
<td>Repertoire and Listening for Musicians</td>
<td>1</td>
</tr>
</tbody>
</table>

Required Studio Courses 21 units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-337</td>
<td>Sound Recording</td>
<td>6</td>
</tr>
<tr>
<td>57-338</td>
<td>Sound Editing and Mastering</td>
<td>6</td>
</tr>
<tr>
<td>57-438</td>
<td>Multitrack Recording</td>
<td>9</td>
</tr>
</tbody>
</table>

Music Technology/Sound Courses (choose 3) 21 units

Choose three courses. One of the three courses must be either Introduction to Computer Music or Electronic and Computer Music. (Note that 15-112 is a prerequisite for 15-322; 57-101 or 57-171 is a prerequisite for 57-347.) Other courses may be taken with the permission of the music technology minor advisor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-104</td>
<td>Introduction to Computing for Creative Practice</td>
<td>10</td>
</tr>
<tr>
<td>15-322</td>
<td>Introduction to Computer Music</td>
<td>9</td>
</tr>
</tbody>
</table>
## Minor in Music Theory

This sequence is for candidates who are majors from any discipline in the university who have some background in music and would like to know more about music theory.

Note: Students in the School of Music have slightly different requirements for the Minor in Music Theory. See School of Music [link](http://coursecatalog.web.cmu.edu/collegeoffinearts/schoolofmusic/ #minorinmusicstechnologyforstudentsintheschoolofmusic).

### Admission Requirements

The student must apply to enter the program in the office of the Director of Student Services (CFA 108).

**Prerequisite Course**

0–3 units

Beginning Piano for Minors is required of students who do not pass a beginning piano proficiency test.

57-294 Beginning Piano Test 0
57-329 Beginning Piano for Minors 3

### Required Music Courses

25 units

Basic Harmony I and/or Basic Solfege I are required of students who do not qualify for entrance into Harmony I and/or Solfege I, based on their scores on the theory and solfege placement tests. These classes fulfill the harmony and solfege requirements.

57-152 Harmony I 9
57-161 Eurhythmics I 3
57-173 Survey of Western Music History 9
57-181 Solfege I 3
57-188 Repertoire and Listening for Musicians 1

### Required Theory Courses

21 units

57-151 Counterpoint in Theory and Application 6
57-153 Harmony II 9
57-408 Form and Analysis 6

### Upper Level Theory Course (choose one)

6 units

See theory courses on the Music Support Courses Two-Year Rotation list. It is available on the Inside Music website:http://music.cfa.cmu.edu/. A graduate course may be taken with the permission of the instructor.

**Elective Courses**

18 units

Elective courses are to be chosen from those courses listed for the School of Music in the current course catalog.

**Minimum units required:** 70

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## Minor in Musicology

This sequence is for candidates who are majors from any discipline in the university who have some background in music and would like to know more about music history.

### Admission Requirements

The student must apply to enter the program in the office of the Director of Student Services (CFA 108).

**Prerequisite Course**

0–3 units

Beginning Piano for Minors is required of students who do not pass a beginning piano proficiency test.

57-294 Beginning Piano Test 0
57-329 Beginning Piano for Minors 3

### Required Music Courses

15 units

Basic Harmony I and/or Basic Solfege I are required of students who do not qualify for entrance into Harmony I and/or Solfege I, based on their scores on the theory and solfege placement tests. These classes fulfill the harmony and solfege requirements.

57-152 Harmony I 9
57-161 Eurhythmics I 3
57-181 Solfege I 3

### Required Musicology Courses

36 units

57-283 Music History I 9
57-284 Music History II 9
57-285 Music History III 9
57-190 Repertoire and Listening for Musicians I 3
57-289 Repertoire and Listening for Musicians II 3
57-290 Repertoire and Listening for Musicians III 3

### Upper Level Musicology Course (choose one)

6 units

See musicology courses on the Music Support Courses Two-Year Rotation list. It is available on the Inside Music website:http://music.cfa.cmu.edu/. A graduate course may be taken with the permission of the instructor.

**Elective Courses**

18 units

Elective courses are to be chosen from those courses listed for the School of Music in the current course catalog.

**Minimum units required:** 75

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## Minor in Sound Design – IDeATe

The minor in Sound Design is offered by the School of Music as part of the Integrative Design, Arts and Technology (IDeATe) network. IDeATe offers students the opportunity to become immersed in a collaborative community of faculty and peers who share expertise, experience, and passions at the intersection of arts and technology. Students will engage in active “learning by doing” in state-of-the-art maker spaces. The program addresses current and emerging real-world challenges that require disciplinary expertise coupled with multidisciplinary perspectives and collaborative integrative approaches.

The IDeATe undergraduate curriculum consists of eight interrelated concentration areas, all of which can also be taken as minors. The themes of these areas integrate knowledge in technology and arts: Game Design, Animation & Special Effects, Media Design, Learning Media, Sound Design, Innovation and Entrepreneurship, Intelligent Environments, and Physical Computing. For more information about the IDeATe network, please see Undergraduate Options [link](http://coursecatalog.web.cmu.edu/servicesandoptions/undergraduateoptions/#ideate).

In the Sound Design minor, students create experimental music or explore new, technology-enabled applications and markets for sound design, music creation, and performance.

### Curriculum

**Required Courses**

One Portal Course Units

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## Minor in Music in the current course catalog.
### Minors Offered by the College of Fine Arts

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-090</td>
<td>Twisted Signals: Multimedia Processing for the Arts</td>
<td>10</td>
</tr>
<tr>
<td>62-150</td>
<td>IDeATe: Introduction to Media Synthesis and Analysis for students in the College of Engineering, Mellon College of Science, and School of Computer Science</td>
<td>10</td>
</tr>
<tr>
<td>57-344</td>
<td>Experimental Sound Synthesis</td>
<td>9</td>
</tr>
<tr>
<td>57-345</td>
<td>Hacking the Music World</td>
<td>9</td>
</tr>
<tr>
<td>15-312</td>
<td>Introduction to Computer Music</td>
<td>9</td>
</tr>
<tr>
<td>33-114</td>
<td>Physics of Musical Sound</td>
<td>9</td>
</tr>
<tr>
<td>54-166</td>
<td>Introduction to Sound Design for Theatre</td>
<td>6</td>
</tr>
<tr>
<td>54-367</td>
<td>Lighting Design Skills</td>
<td>6</td>
</tr>
<tr>
<td>57-337</td>
<td>Sound Recording</td>
<td>6</td>
</tr>
<tr>
<td>57-347</td>
<td>Electronic and Computer Music</td>
<td>6</td>
</tr>
<tr>
<td>60-352</td>
<td>NOISE: Toward a Critical Theory of Sound and Hearing</td>
<td>9</td>
</tr>
</tbody>
</table>

### Electives

Students may take a collaborative or supportive course from one of the other IDeATe areas as one of their four collaborative or supportive courses toward the Sound Design minor.

### Double-Counting Restriction

Students may double-count two of their Sound Design minor courses for other requirements.

### Minors under CFA Dean's Office

#### Minor in Photography

The Photography Minor exposes students to the breadth of photography offering experiences in traditional photography (i.e. film exposure and silver printing) to digital shooting and output. The student who takes the Photography Minor will become familiar with photography's craft, its history and significant practitioners, and develop his/her own distinct engagement with the medium.

Students may apply for the Photography Minor after they have taken a CFA or Pittsburgh Filmmakers' beginning photography course. Freshmen should not apply for the minor. Students in four-year undergraduate programs may apply in their sophomore or junior year. Students in five-year undergraduate programs, such as Architecture, may apply in their second, third, or fourth year. Applications are accepted in both the fall and spring semesters.

Students will be admitted to the minor based on their aptitude, appropriate level of photography skills, and space availability within the program. Once admitted, students will be assigned a faculty advisor who will help them determine a sequence of courses that best fits their needs and interests.

#### Application Requirements

The application process for the Photography Minor requires submission of: a completed application form signed by the home department advisor, a personal statement, and a portfolio of photographs. Contact the CFA Photography Administrator, Jamie Gruzska, MM B18, for further information and an application form.

#### Photography Required Courses (3) minimum 27 units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>62-141/51-265</td>
<td>Black and White Photography I **</td>
<td>10</td>
</tr>
<tr>
<td>62-241</td>
<td>Black and White Photography II</td>
<td>10</td>
</tr>
<tr>
<td>62-142</td>
<td>Digital Photography I</td>
<td>10</td>
</tr>
<tr>
<td>62-371</td>
<td>Photography, The First 100 Years, 1839-1939</td>
<td>9</td>
</tr>
<tr>
<td>or 62-360</td>
<td>Photographers and Photography Since World War II</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Photo History Required Course (1) 9 units

Choose one (1) additional History, Theory or Criticism of the Arts course in consultation with the photo advisor. A second Photo History course (62-360 or 62-371) can be used for this requirement.

* prerequisite for photo courses other than history, theory, and/or criticism course

** or course approved by the photography advisor

#### Minimum units required: 54

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>62-165</td>
<td>Mutable Landscape:</td>
<td>10</td>
</tr>
<tr>
<td>62-245</td>
<td>Portrait Photography</td>
<td>10</td>
</tr>
<tr>
<td>62-265</td>
<td>Alternative Photo Processes</td>
<td>10</td>
</tr>
<tr>
<td>62-325</td>
<td>View Camera</td>
<td>10</td>
</tr>
</tbody>
</table>