

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

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 advisers 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; Music: Lewis Strouse.

Minor in Architecture

This sequence is for candidates who intend to develop intellectual links to the architectural profession. The scope of courses offered includes a full spectrum of professional issues in architecture.

Prerequisite Courses 9 units

64-100	Critical Histories of the Arts	9
or		
79-104	Introduction to World History	9

Required Courses 18-21 units

48-100	Architecture Design Studio: Foundation I	12
or		
48-095	Architecture for Non-Majors*	9
48-240	Historical Survey of World Architecture and Urbanism	9

Elective Courses ** 27 units

48-130	Architectural Drawing I: A Tactile Foundation	6
48-135	Architectural Drawing II: Appearance	9
48-230	Architectural Drawing III: Perspective	9
48-210	Statics	9

48-215	Materials and Assemblies	9
48-217	Structures	9
48-xxx	Architecture History	9
48-351	Human Factors in Architecture	9
48-452	Real Estate Design and Development	9
48-453	Urban Design Theory and Practice	9
48-551	Ethics and Decision Making in Architecture	9
48-xxx	Architecture Elective	9

Minimum Units: 54

* Where students can demonstrate equivalent experience with design issues within other disciplines, for example in the School of Design, this requirement can be waived. However, this 12 unit requirement must then be replaced with another 12 units of elective coursework with the School.

**Students should consult the Architecture advisor regarding elective choices.

Minor in Architectural History (available also to B. Arch Candidates)

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 if a course is eligible.

Prerequisite Courses 18 units

64-100	Critical Histories of the Arts	9
or		
79-104	Introduction to World History	9
48-240	Historical Survey of World Architecture and Urbanism	9

Elective Courses 36 units/45 units

48-338	European Cities in the XIX Century	9
48-340	Modern Architecture and Theory, 1900-1945	9
48-341	History of Architectural Theory	9
48-343	American Built Environment Since 1860	9
48-344	Henry Hornbostel	9
48-345	The Cultural Landscape of Northern Italy	9
48-348	History of Central American Architecture	9
48-433	The Destruction and Rebuilding of Iconic Buildings and Cities	9
48-436	History of Architecture and the Body	9
48-440	American Regionalism	9
48-441	Frank Lloyd Wright	9
48-445	The City in History	9
48-447	History and Preservation	9

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.

Required Courses 30 units

48-120	Introduction to Digital Media I	6
48-130	Architectural Drawing I: A Tactile Foundation	6
48-135	Architectural Drawing II: Appearance	9
48-230	Architectural Drawing III: Perspective	9

Elective Courses 21 units

48-125	Introduction to Digital Media II	6
48-355	Drawing Architecture	9
48-477	Making Things Interactive	9
48-568	Advanced CAD, BIM, and 3D Visualization	9
48-576	Mapping Urbanism	9

Minimum Units: 51

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 14 - 22 units

21-114	Calculus for Architecture	5
or		
21-120	Differential and Integral Calculus	10
48-115	Physics for Architecture	9
or		
33-106	Physics for Engineering Students I	12

Elective Courses 32 - 40 units

48-210	Statics	9
48-215	Materials and Assemblies	9
48-217	Structures	9
48-315	Environment I: Climate and Energy	9
48-410	Environment II: Acoustics and Light	6
48-412	Environment III: Mechanical Systems	9
48-415	Advanced Building Systems	6
48-xxx	Architecture Elective	9

Minimum Units: 54

Minor in Building Science

(Available only to B. Arch Candidates)

This sequence is intended for candidates seeking in depth knowledge in the area of architectural science and for those interested in gaining advanced placement in the M.S. Program offered by the School of Architecture in Building Performance and Sustainable Design.

Required Courses 9 units

48-711	Research Models and Methods	9
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Elective Courses 45 units

48-596	LEED Building and Green Design	6-9
48-721	Building Controls and Diagnostics	12
48-722	Building Performance Modeling	12
48-723	Performance of Advanced Building Systems	9
48-729	Productivity, Health, and Quality of Buildings	9-12
48-728	Special Topics in BPD	9
48-749	Special Topics in CAD	9
48-752	Zero Energy House	9

Minimum Units: 54

Minor in Art

Concept Studio (choose one)		10 units
60-101	Concept Studio I: The Human Being (fall)	10
60-102	Concept Studio II: Time and Space (spring)	10
60-201	Concept Studio III: Systems and Processes (fall)	10

Media Studios (choose two)

60-110	Electronic Media Studio I: Computer Art (fall)	10
60-210	Electronic Media Studio II: Video Art (fall and spring)	10
60-130	Three Dimensional Media Studio I (spring)	10
60-230	Three-Dimensional Media Studio II (fall)	10
60-150	Two-Dimensional Media Studio I: Drawing (fall)	10
60-151	Two-Dimensional Media Studio II: Drawing (spring)	10
60-250	Two-Dimensional Media Studio III: Painting (fall and spring)	10
60-251	Two-Dimensional Media Studio IV: Printmaking (spring)	10

Advanced Media (choose two) 20 units

60-4xx	Advanced ETB: Electives	10
60-4xx	Advanced SIS: Electives	10
60-4xx	Advanced PDP: Electives	10

Art History/Theory 9 units

60-105	Pre-Industrial Visual Cultures 1789 (spring)	9
60-205	Modern Visual Cultures 1789-1945 (fall)	9
60-206	Contemporary Visual Cultures 1945 to the Present	9
60-3xx	Art History/Theory Electives	9

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 in the Arts must be taken outside of their major School, with the exception of the School of Architecture. Interested students should contact Jessica Garcia in the College of Fine Arts, Room 100.

Introductory Level Courses: 27 units (choose at least three, CFA students pick 3 outside of major)

48-240	Historical Survey of World Architecture and Urbanism (pre-requisite for all advanced architecture classes below)	9
51-271	Design History I: Fall Only	9
54-239	History of Architecture and Decor	6
54-245	History of Clothing: Fall	6
54-246	History of Clothing: Spring	6
57-173	Survey of Western Music History	9
60-205	Modern Visual Cultures 1789-1945 (fall)	9
60-206	Contemporary Visual Culture: 1945 to Present	9

Advanced Courses 27 units (choose at least three, CFA students pick 3 outside of major)

48-340	Modern Architecture and Theory, 1900-1945	9
48-341	History of Architectural Theory	9
48-343	American Built Environment Since 1860	9
48-344	Henry Hornbostel	9
48-345	The Cultural Landscape of Northern Italy	9
48-348	History of Central American Architecture	9
48-436	History of Architecture and the Body	9
48-440	American Regionalism	9
48-441	Frank Lloyd Wright	9
48-443	The Destruction and Rebuilding of Iconic Buildings and Cities	9
48-447	History & Preservation	9
51-272	Design History II (instructor permission only)	9
51-378	History of the Book and Printing (offered intermittently)	6
54-381	History of Drama: Fall	3
54-382	History of Drama II	3
57-202	Opera History (offered intermittently)	9
57-209	The Beatles	6
57-477	Music of the Spirit	6
57-478	Survey of Historical Recordings	6
57-480	History of Black American Music	6

60-350			
to 60-398	Art History/Theory Special Topics (instructor permission only)	9	
62-360/ 79-360	Photographers and Photography since WWII	9	
62-371/ 79-372	Photography, The First 100 Years	9	
79-324	Modern Painting (offered intermittently)	9	
79-355	The American Skyscraper: Its History and Development	6	
79-364	Art, Anthropology and Empire	9	
79-395	The Arts in Pittsburgh	9	
79-396	Music and Society in the 19th/20th Century Europe and the US	9	

minimum units required: 54

Minor in Communication Design

This program gives an overview of basic visual communication skills and the concerns of the communication design professions. Entry into the program and course registration is contingent upon your ability to demonstrate an acceptable level of design skills and aptitude through a portfolio review. Students must receive approval and course counseling for a Minor in Communication Design from the Communication Design Faculty Advisor before beginning the sequence of required courses. Through this advising system, a curriculum sequence will be chosen to meet your specific needs and fit within Design's current course capacities. Applications are reviewed each February.

Required Courses 18 units

51-261	Communication Design Fundamentals (fall or spring)	9
51-271	Design History I (fall)	9

Elective Courses 36 units

Elective courses are to be chosen from those listed in the current course catalog. This program description is based on the latest information at the time of publication. Interested students should contact the School of Design regarding any changes in the program and the availability of courses.

minimum units required: 54

Minor in Industrial Design

This program gives an overview of basic design skills and concerns of the product design profession. It is intended to enable students from Engineering, Humanities and Social Science, Management and other colleges to interact effectively with professional Product Designers. Entry into the program and course registration is contingent upon your ability to demonstrate an acceptable level of design skills and aptitude through a portfolio review. Students must receive approval and course counseling for a Minor in Industrial Design from the Industrial Design Faculty Advisor before beginning the sequence of required courses. Through this advising system, a curriculum sequence will be chosen to meet your specific needs and fit within Design's current course capacities. Applications are reviewed each February.

Required Courses: 18 units

51-263	Industrial Design Fundamentals (fall or spring)	9
51-271	Design History I (fall)	9

Elective Courses: 36 units

Elective courses are to be chosen from those listed in the current course catalog. This program description is based on the latest information at the time of publication. Interested students should contact the School of Design regarding any changes in the program and the availability of the courses.

minimum units required: 54

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, and a series of related Theatre History 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 Advisor, PCA 223.
2. The student must successfully pass one Drama course prior to being considered for minor status.

Required Courses	25 units
54-163/4	Production for Non-Majors (6+6 units)
54-177	Foundations of Drama I (6 units)
54-178	Foundations of Drama II (6 units)
54-175/6	Conservatory Hour (1 unit)
	(only one semester required)

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 Academic Coordinator of the School of Drama. For certain courses, students may need instructor permission to register.

Elective Courses not requiring instructor permission:

54-187/8	Introduction to Playwriting	6
54-189/90	Advanced Playwriting	9
54-191/2	Acting for Non-Majors	9
54-193/4	Intro to Screenwriting	9
54-195/6	Advanced Screenwriting	9

Selected Elective Courses requiring instructor permission:

54-109	Dramaturgy I	9
54-121	Directing I	9
54-157	Basic PTM	6
54-169	Studiocraft I	6
54-171	Basic Design	6
54-330	Intro to Stage Management	6

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

Minimum units required: 55

Minor in Jazz Performance

This sequence is for candidates who are majors from any discipline in the university who have substantial potential as demonstrated by an acceptable audition and would like to improve their jazz performance skills.

Admission Requirements

1. The student must apply to enter the program in the office of the Director of Student Services (CFA 108).
2. The student must perform an acceptable audition. For the audition, the student should perform two contrasting pieces and demonstrate the potential for the development of improvisatory skills.

Prerequisite Courses 12 units

57-090	Basic Theory Skills	0
57-092	Basic Solfege Skills	0
57-152	Harmony I	6
57-181	Solfege I	6

Required Jazz Courses 24 units

57-xxx	Jazz Ensemble or Jazz Vocal Ensemble	3
57-xxx	Jazz Ensemble or Jazz Vocal Ensemble	3
57-319	Jazz Piano	3
57-320	Jazz Piano	3
57-328	Jazz Chamber Music	3
57-328	Jazz Chamber Music	3
57-450	Jazz Ear Training	3
57-453	Jazz Improvisation	3

Required Studio Courses 24 units

This requirement must be fulfilled by taking Minor Studio for 4 semesters.

Elective Courses (choose 1) 6 units

57-451	Jazz Arranging	6
57-452	Jazz Composition	6
57-454	Jazz Transcription and Analysis	6
57-457	Jazz History I	6
57-458	Jazz History II	6

Minimum units required: 54

Minor in Music Performance/ Music (Composition)

This sequence is for candidates who are majors from any discipline in the university other than music who have professional potential demonstrated by an acceptable audition and would like to improve their performance skills, but who have chosen to pursue a major other than music.

Admission Requirements

1. The student must apply to enter the program in the office of the Director of Student Services (CFA 108).
2. The student must perform an acceptable audition. Requirements for the audition can be found in the Admission section of the Undergraduate Catalog.

Prerequisite Course 3 units

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

57-103 Beginning Piano 3

Introductory Courses 22 units

57-161 Eurhythmics I 3
57-181 Solfege I 3
57-152 Harmony I 6
57-173 Survey of Western Music History 9
57-188 Repertoire and Listening for Musicians 1

Required Studio Courses 24 units

57-496 Minor Studio 6
57-497 Minor Studio 6
57-498 Minor Studio 6
57-499 Minor Studio 6

Elective Courses (for non-voice minors) 24 units

Elective courses are to be chosen from those course 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.)

Required Language Courses (for voice minors) 18 units

Language course (choose 1)

82-101 Elementary French I 12
82-121 Elementary German I 12
82-161 Elementary Italian I 12

Diction course (choose 1)

An introductory course in the applicable language is a prerequisite for each of these courses.

57-221 Italian Diction 3
57-222 French Diction 3
57-223 German Diction 3

literature and repertoire course (choose 1)

An introductory course in the applicable language is a prerequisite for each of these courses.

57-431 Italian Literature and Repertoire 3
57-432 French Literature and Repertoire 3
57-435 German Literature and Repertoire 3

other courses (choose 6 units)

These 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.) Additional diction, literature and repertoire, and language electives are encouraged for voice minors.

Minimum units required: 70

Minor in Music Technology

This sequence is for candidates who are music majors; art, design, or drama majors who are interested in recording, sound-editing and other music technology areas (in addition to courses in their home schools); or 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 3 units

Computing @ Carnegie Mellon must be passed before taking any of the required technology courses.

Introductory Music Courses 16 units

57-152 Harmony I 6
57-173 Survey of Western Music History 9
57-188 Repertoire and Listening for Musicians 1

Required Music Technology Courses 33 units

57-101 Introduction to Music Technology 6
57-337 Sound Recording 6
57-338 Sound Editing and Production 6
57-347 Electronic and Computer Music 6
57-438 MultiTrack Recording 9

Technical Courses (choose 2) 15 units

xx-xxx H&SS multimedia course 9
15-100 Introductory/Intermediate Programming 10
15-229 Multimedia Programming and Computer Science 9
33-114 Physics of Musical Sound 6
54-165 Sound Design I 6
57-610 Internship 9

Minimum units required: 64

Minor in Music Theory

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

Admission Requirements

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

Prerequisite Courses 3 units

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

57-103 Beginning Piano 3

Introductory Courses 22 units

57-152 Harmony I 6
57-161 Eurhythmics I 3
57-173 Survey of Western Music History 9
57-188 Repertoire and Listening for Musicians 1
57-181 Solfege I 3

Required Theory Courses 27 units

57-151 Principles of Counterpoint 6
57-153 Harmony II 6
57-257 Orchestration I 6
57-408 Form and Analysis 6
57-612 Independent Study in Music Theory 3

Analysis Course 6 units

Other analysis courses may also be approved by the advisor for music minors.

57-442 Analytical Techniques 6

Minimum units required: 55

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 Gruzka, MM B18, for further information and an application form.

Photography Required Courses (3) 27 units

62-141/ 60-141/ 51-265; or Black & White Photography I * **	9 units
62-241 Black & White Photography II	9 units
62-381 Color Photography and Digital Output	9 units

Photography Elective (1) 9 units

Choose one (1) additional photography course from the list below in consultation with the photo advisor, or consult Jamie Gruzka for current offerings. Also, photo courses may be taken at Pittsburgh Filmmakers. Please refer to their course catalog that is available in the CFA Dean's Office, CFA 100, or online: pghfilmmakers.org

51-338 Documentary Photography	
62-245 Portrait Photography	
62-265 Alternative Photo Processes	
62-337 Studio Lighting	
62-325 View Camera	
62-372/51-330 Photo Book	

Photo History Required Course (1) 9 units

62-371 Photography, The First 100 Years **	9 units
or	
62-360 Photography Since World War II **	9 units

History, Theory, or Criticism of the Visual Arts Elective (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