

Master of Architecture and M.S. in Civil Engineering

This dual degree option is a specific tailoring of the construction engineering and management specialization in the M.S. in Civil Engineering program and is only available to students pursuing the M.Arch. degree.

The dual degree program permits students to obtain both an M.Arch. and a M.S. in Civil Engineering in substantially less time than if each degree was pursued separately. A maximum of 15 credits may be used to satisfy requirements of both degrees.

Students take courses shown below to fulfill requirements for the M.S. in Civil Engineering, or their equivalent. There is no thesis requirement. Students without a bachelor's degree in civil engineering must complete the bridge program; these courses do not count toward degree requirements. **See the undergraduate catalog for descriptions of these courses.**

All bridge courses are required as prerequisites for admission to the MSCE degree. All students in this dual-degree program must take MATH 112 and 105 or equivalent courses. Equivalency for courses taken at other institutions is determined by NCE Graduate Advisor.

Up to 15 credits of graduate-level coursework may be applied to both the M.Arch. and M.S. Students may take additional courses at the graduate level during their undergraduate career, up to a maximum of 21 credits, but no additional graduate courses beyond the first 15 credits can be counted toward the first masters degree requirements.

All prerequisite courses must be completed prior to taking bridge courses. All bridge courses must be completed prior to taking CoAD graduate courses counting toward both degrees. All CoAD graduate courses counting toward both degrees must be taken before taking any NCE graduate courses counting only toward the MSCE. The M.Arch degree must be completed before formal admission to the MSCE. No more than a total of 21 graduate credits toward the second degree (15 counted toward both degrees, 6 counted only to the second graduate degree) may be taken prior to completion of the first graduate degree. The program requires at least one additional semester of full-time study as a graduate student, following completion of the first graduate degree.

At the time of admission to the dual degree program, the civil engineering graduate advisor will determine if any M.S. in Civil Engineering course requirements can be waived.

Co-op Work Experience in Architecture and the **Housing Scholars Program** give students an opportunity to gain additive credits and salaried employment.

To become eligible to take the architecture registration examination in New Jersey, professional M.Arch. Graduates must complete three years of practical work experience apprenticeship that meet specific criteria set by the New Jersey State Board of Architects. Co-op internship work experiences in architecture meeting these criteria are acceptable equivalents for such apprenticeships, and are available to NJIT students. Students become eligible after completing the first year of M.Arch core courses.

The Housing Scholars Program provides college students with paid summer internships at non-profit, community-based affordable housing organizations, and is jointly administered by NJIT's Division of Career Development Services and the New Jersey Department of Community Affairs. Housing Fellows are placed with community-based, non-profit organizations that initiate affordable housing and related projects. Graduate students who have completed at least 28 credits of core courses and who have an overall cumulative GPA of 3.2 or above are eligible to participate. Scholars are selected through a competitive application to the Division of Career Development Services and an interview process throughout February and March, and begin their internship in early June.

Students should consult the School of Architecture co-op advisor for details on work experience and the Housing Scholars program.

The requirements to obtain the M.S. in Civil Engineering degree are:

M.Arch. and M.S. in Civil Engineering (civil engineering bachelor's degree)

M.Arch. Requirements

Code	Title	Credits
Core Courses		
ARCH 500G	Tools and Techniques II	3
ARCH 501G	Architecture Studio I	6
ARCH 502G	Architecture Studio II	6
ARCH 503G	Architecture Studio III	6
ARCH 504G	Architecture Studio IV	6
ARCH 541G	Construction I	3

ARCH 542G	Construction II	3
ARCH 543G	Environmental Control Systems I	3
ARCH 544G	Environmental Control Systems II	3
ARCH 545G	Structures I	3
ARCH 548G	Structures II	3
ARCH 547G	Synthesis Seminar	3
ARCH 528G	History of Architecture I	3
ARCH 529G	History of Architecture II	3
ARCH 555G	Tools and Techniques I	3
ARCH 569G	Professional Practice I	3
ARCH 579G	Professional Practice II	3
Two courses in architectural history ^{1,2}		6
One course in contemporary architectural theory ²		3
Option Sequence		
Select two of the following:		12
ARCH 505G	Advanced Architecture Studio I	
ARCH 506G	Advanced Architecture Studio II	
ARCH 507G	Advanced Design Options III	
MARC 701		
ARCH XXX	Electives ²	9
Electives ²		9
Total Credits		102

¹ Including one course in non-western, regional, or vernacular architecture.

² To be selected in consultation with the graduate advisor.

With the exception of History/Theory Selectives, ARCH 569G Professional Practice I and ARCH 579G Professional Practice II, all core courses must be completed before proceeding to the options sequence.

M.S. in Civil Engineering Requirements

Code	Title	Credits
Core Courses		
CE 610	Construction Management	3
CE 611	Project Planning and Control	3
CE 616	Construction Cost Estimating	3
EM 632	Legal Aspects in Construction	3
Required Courses		
ARCH 650	Economy Of Building	3
ARCH 652	Architectural Project Management	3
ARCH 675	Elements of Infrastructure Planning	3
MIS 645	Information Systems Principles	3
Electives		
Select two of the following:		6
CE 615	Infrastructure and Facilities Remediation	
CE 631	Advanced Reinforced Concrete Design	
CE 642	Foundation Engineering	
CE 702	Special Topics in Civil Engineering	
CE 711	Methods Improvement in Construction	
ENE 662	Site Remediation	
ENE 671	Environmental Impact Analysis	
Total Credits		30

M.Arch. and M.S. in Civil Engineering (no civil engineering bachelor's degree)

M.Arch. Requirements

Code	Title	Credits
Core Courses		
ARCH 500G	Tools and Techniques II	3
ARCH 501G	Architecture Studio I	6
ARCH 502G	Architecture Studio II	6
ARCH 503G	Architecture Studio III	6
ARCH 504G	Architecture Studio IV	6
ARCH 541G	Construction I	3
ARCH 542G	Construction II	3
ARCH 543G	Environmental Control Systems I	3
ARCH 544G	Environmental Control Systems II	3
ARCH 545G	Structures I	3
ARCH 548G	Structures II	3
ARCH 547G	Synthesis Seminar	3
ARCH 528G	History of Architecture I	3
ARCH 529G	History of Architecture II	3
ARCH 555G	Tools and Techniques I	3
ARCH 569G	Professional Practice I	3
ARCH 579G	Professional Practice II	3
Two courses in architectural history ^{1,2}		6
One course in contemporary architectural theory ²		3
Option Sequence		
Select two of the following:		12
ARCH 505G	Advanced Architecture Studio I	
ARCH 506G	Advanced Architecture Studio II	
ARCH 507G	Advanced Design Options III	
MARC 701		
ARCH XXX	Electives ²	9
Electives ²		9
Total Credits		102

¹ Including one course in non-western, regional, or vernacular architecture.

² To be selected in consultation with the graduate advisor.

With the exception of History/Theory Selectives, ARCH 569G Professional Practice I and ARCH 579G Professional Practice II, all core courses must be completed before proceeding to the options sequence.

M.S. in Civil Engineering Requirements (w/o a BSCE degree)

(30 credits)

Code	Title	Credits
Bridge Courses ¹		
All Bridge Courses Required *		
CE 200	Surveying	2
CE 200A	Surveying Laboratory	1
CE 341	Soil Mechanics	3
CE 341A	Soil Mechanics Laboratory	1
MATH 105	Elementary Probability and Statistics	3
MATH 112	Calculus II	4
Total Credits		14

Code	Title	Credits
Courses counted to both Degrees (12 required credits)		12
Select four courses		
MIP 631	History and Theory of Infrastructure	
MIP 652	Geographic Information Systems	
MIP 655	Land Use Planning	
MIP 673	Infrastructure Planning in Practice	
MIP 675	Elements of Infrastructure Planning	
ARCH 569G	Professional Practice I	
ARCH 647	Special Topics in Computer Applications	
ARCH 649	Life Safety Issues in Contemporary Buildings	
ARCH 650	Economy Of Building	
ARCH 651	Real Estate Analysis for Architects	
ARCH 652	Architectural Project Management	
ARCH 663	Introduction to Sustainable Architecture	
ARCH 664	Indoor Environmental Quality in Sustainable Design Buildings	
ARCH 665	Sustainable Design of Energy Efficient Buildings	
ARCH 666	Sustainable Design with Efficient Materials and Resources	
Civil and Environmental Engineering Core Courses (12 required credits)		12
CE 610	Construction Management	
CE 611	Project Planning and Control	
CE 616	Construction Cost Estimating	
EM 632	Legal Aspects in Construction	
Elective Credits in Civil & Environmental Engineering		6
Select two of the following courses		
CE 615	Infrastructure and Facilities Remediation	
CE 617	Historic Preservation	
CE 631	Advanced Reinforced Concrete Design	
CE 642	Foundation Engineering	
Required Courses		
CE 644	Geology in Engineering	
CE 671	Performance and Risk Analysis of Infrastructure Systems	
CE 702	Special Topics in Civil Engineering	
CE 711	Methods Improvement in Construction	
ENE 662	Site Remediation	
ENE 671	Environmental Impact Analysis	
Total Credits		30

¹ Bridge courses are required as prerequisites for admission to the MSCE program

* Prereq courses for CE 341 for M.Arch students are MATH 112 & 105, ARCH 545G & 548G