Program Change Request

Date Submitted: 03/01/21 6:49 pm

Viewing: **CC-CSP-MS : M.S. in Cyber Security and Privacy**

Last approved: 11/19/20 2:29 pm

Last edit: 03/01/21 6:49 pm

Changes proposed by: Reza Curtmola (crix)

Catalog Pages Using this Program	[M.S. in Cyber Security and Privacy](#)

Department(s) / College(s)	Department	College
	Computer Science (CS)	Ying Wu Coll of Computing (CC)

Name of Program   M.S. in Cyber Security and Privacy

Academic Level(s)   Graduate

Degree Designation   MS

Campus(es) where the program will be offered   Newark

CIP Code

Effective Catalog Edition   2021-2022

Faculty Senate Review required?

Related Department(s)	Department(s)

Approval Path

1. 03/01/21 7:03 pm Baruch Schieber (sbar): Approved for CS Chair
2. 03/02/21 12:48 pm Mesfin Ayne (ayne): Approved for AIS
3. 03/02/21 12:52 pm Ali Mili (mili): Approved for CC Dean

History

1. May 21, 2020 by Reza Curtmola (crix)

Department(s)
Computer Science (CS)

If the change involves altering the department's curriculum paradigm as currently outlined in the NJIT catalog, please attach existing and proposed paradigms.

Articulation with other institutions, if any

Objectives

Briefly summarize the program and indicate its objectives; e.g., the nature and focus of the program, the knowledge and skills students will acquire, any cooperative arrangements with other institutions or external agencies in offering this program, etc.

Need

Provide justification of the need for this program. If the program falls within the liberal arts and sciences and does not specifically prepare students for a career, then provide evidence of student demand and indicate opportunities for students to pursue advanced study (if the degree is not terminal with regard to further education). If the program is career-oriented or professional in nature, then in addition to student demand give evidence of labor market need and results of prospective employer surveys. Report labor market need as appropriate on local, regional, and national bases. Specify job titles and entry-level positions for program graduates, and/or indicate opportunities for graduates to pursue additional studies.

Relationship to the University and State Master Plans

Describe the relationship of the program to the following: institutional master plans and priorities.

Relationship to Similar Programs in the State and Region

List similar programs within the state and in neighboring states. How does this program compare to those currently being offered?

Distinguished Programs Nationally

For doctoral programs: Supply a select list of distinguished programs nationally in this discipline.

Students

Estimate anticipated enrollments from the program's inception until a steady state or optimum enrollment is reached.

Resources to Support the Program

Briefly describe the additional resources needed to implement and operate the program during the program's first five years, e.g., the number of full-time faculty, number of adjunct faculty, computer equipment, print and non-print material, etc.

Course
Development Plan

Names of faculty
involved

Libraries and
Computing
Facilities

Classrooms and
Laboratories Needs

Catalog Description (For PHD programs, include information about the qualifying exams, and other program milestones.)

Curriculum

Degree Requirements

An MSCSP course program must satisfy the following distribution requirement:

30 credits are required, which can be satisfied as either one of the following options:

Courses (30 credits)

Courses (27 credits) + MS Project (3 credits)

Courses (24 credits) + MS Thesis (6 credits)

All Core courses are required.

At most two courses can be Foundational courses.

At most two courses can be chosen from outside the Department of Computer Science.

If a student chooses the MS project or MS thesis option, the following two additional rules apply:

The project or thesis must be related to cyber security.

YWCC 691 cannot be taken as an elective course.

Students with non-computing STEM background may be accepted and required to take the following bridge courses (CS 506 may count toward the credits required for the MS degree):

Bridge Courses

CS 280	Programming Language Concepts	3
CS 332	Principles of Operating Systems	3
CS 505	Programming, Data Structures, and Algorithms	3
CS 506	Foundations of Computer Science	3

M.S. in Cyber Security and Privacy (courses only)

Core Course Requirements		15
CS 608	Cryptography and Security	3
CS 645	Security and Privacy in Computer Systems	3
CS 646	Network Protocols Security	3
CS 647	Counter Hacking Techniques	3
CS 656	Internet and Higher-Layer Protocols	3
Electives and Foundational Courses		15
Elective Courses		
CS 633	Distributed Systems	3
CS 634	Data Mining	3
CS 643	Cloud Computing	3
CS 648	Cyber Sec Investigations & Law	3
CS 660	Digital Watermarking	3
CS 673	Software Design and Production Methodology	3
CS 678	Topics in Smartphone Sec & Rel	3

CS 680	Linux Kernel Programming	3
CS 684	Software Testing and Quality Assurance	3
CS 696	Network Management and Security 1	3
or ECE 638	Network Management and Security	
CS 708	Advanced Data Security and Privacy	3
CS 755	Security and Privacy in Wireless Networks	3
IS 601	Web Systems Development	3
IS 650	Data Visualization and Interpretation	3
IS 657	Spatiotemporal Urban Analytics	3
IS 665	Data Analytics for Info System	3
IS 680	Information Systems Auditing	3
IS 681	Computer Security Auditing	3
IS 682	Forensic Auditing for Computing Security	3
IS 687	Transaction Mining and Fraud Detection	3
IT 620	Wireless Networks Security and Administration	3
IT 640	Network Services Administration	3
ECE 636	Computer Networking Laboratory	3
MGMT 688	Information Technology, Business and the Law	3
MGMT 691	Legal and Ethical Issues in a Digital World	3
MATH 661	Applied Statistics	3
YWCC 691	Graduate Capstone Project	3
Foundational Courses		
CS 610	Data Structures and Algorithms	3
CS 630	Operating System Design	3
CS 631	Data Management System Design	3

1 Substitution allowed only for students with ECE background and with the permission of the graduate advisor.

M.S. in Cyber Security and Privacy (Master's project option)

Core Course Requirements		15
CS 608	Cryptography and Security	3
CS 645	Security and Privacy in Computer Systems	3
CS 646	Network Protocols Security	3
CS 647	Counter Hacking Techniques	3
CS 656	Internet and Higher-Layer Protocols	3

Project		3
CS 700B	Master's Project 2	3
Electives and Foundational Courses		12
Elective Courses		
CS 633	Distributed Systems	3
CS 634	Data Mining	3
CS 643	Cloud Computing	3
CS 648	Cyber Sec Investigations & Law	3
CS 660	Digital Watermarking	3
CS 673	Software Design and Production Methodology	3
CS 678	Topics in Smartphone Sec & Rel	3
CS 680	Linux Kernel Programming	3
CS 684	Software Testing and Quality Assurance	3
CS 696	Network Management and Security 1	3
or ECE 638	Network Management and Security	
CS 708	Advanced Data Security and Privacy	3
CS 755	Security and Privacy in Wireless Networks	3
IS 601	Web Systems Development	3
IS 650	Data Visualization and Interpretation	3
IS 657	Spatiotemporal Urban Analytics	3
IS 665	Data Analytics for Info System	3
IS 680	Information Systems Auditing	3
IS 681	Computer Security Auditing	3
IS 682	Forensic Auditing for Computing Security	3
IS 687	Transaction Mining and Fraud Detection	3
IT 620	Wireless Networks Security and Administration	3
IT 640	Network Services Administration	3
ECE 636	Computer Networking Laboratory	3
MGMT 688	Information Technology, Business and the Law	3
MGMT 691	Legal and Ethical Issues in a Digital World	3
MATH 661	Applied Statistics	3
Foundational Courses		
CS 610	Data Structures and Algorithms	3
CS 630	Operating System Design	3

CS 631	Data Management System Design	3

1 Substitution allowed only for students with ECE background and with the permission of the graduate advisor.

2 The project must be related to cyber security.

M.S. in Cyber Security and Privacy (Master's thesis option)

Core Course Requirements		15
CS 608	Cryptography and Security	3
CS 645	Security and Privacy in Computer Systems	3
CS 646	Network Protocols Security	3
CS 647	Counter Hacking Techniques	3
CS 656	Internet and Higher-Layer Protocols	3
Thesis		6
CS 701C	Master's Thesis 2	6
Electives and Foundational Courses		9
Elective Courses		
CS 633	Distributed Systems	3
CS 634	Data Mining	3
CS 643	Cloud Computing	3
CS 648	Cyber Sec Investigations & Law	3
CS 660	Digital Watermarking	3
CS 673	Software Design and Production Methodology	3
CS 678	Topics in Smartphone Sec & Rel	3
CS 684	Software Testing and Quality Assurance	3
CS 680	Linux Kernel Programming	3
CS 696	Network Management and Security 1	3
or ECE 638	Network Management and Security	
CS 708	Advanced Data Security and Privacy	3
CS 755	Security and Privacy in Wireless Networks	3
IS 601	Web Systems Development	3
IS 650	Data Visualization and Interpretation	3
IS 657	Spatiotemporal Urban Analytics	3
IS 665	Data Analytics for Info System	3
IS 680	Information Systems Auditing	3
IS 681	Computer Security Auditing	3

IS 682	Forensic Auditing for Computing Security	3
IS 687	Transaction Mining and Fraud Detection	3
IT 620	Wireless Networks Security and Administration	3
IT 640	Network Services Administration	3
ECE 636	Computer Networking Laboratory	3
MGMT 688	Information Technology, Business and the Law	3
MGMT 691	Legal and Ethical Issues in a Digital World	3
MATH 661	Applied Statistics	3

Foundational Courses

CS 610	Data Structures and Algorithms	3
CS 630	Operating System Design	3
CS 631	Data Management System Design	3

1 Substitution allowed only for students with ECE background and with the permission of the graduate advisor.

2 The thesis must be related to cyber security.

Master of Science in Cyber Security and Privacy (CSP) - Cyber Defense Option

The objective of the Cyber Defense Professional Science Master (PSM), an option of the MS CSP, is to create leaders with strong communication and management skills in addition to the strong technical knowledge in security and privacy of computer systems, networks and web applications. This PSM is designed for working professionals or students who already have acquired some professional experience. The Cyber Defense PSM is affiliated with the PSM National Office.

A student in the MS CSP – Cyber Defense Option must satisfy the following distribution of requirements:

36 credits are required.

All Cybersecurity Core courses are required **(18** ~~(21~~ credits)

The rest of **18** ~~15~~ credits must be taken from the combined list of PTC (Professional and Technical Communications), Management, and Computing electives, with at least 3 credits, and no more than 6, from each of the 3 elective lists

Among the required Cybersecurity Core courses, the program includes an MS Project, YWCC 691. These projects are part of a project course, supervised by a CS faculty member, and done in collaboration with industrial partners. These partners will propose projects, and they will co-supervise the students together with the instructor of the course. Students who have a job are allowed to work on projects from their companies, in which case their employer will be actively engaged in the project supervision. The projects will generally be done in teams of 3 students.

Core Course Requirements:		18
CS 608	Cryptography and Security	3
CS 645	Security and Privacy in Computer Systems	3
CS 646	Network Protocols Security	3
CS 647	Counter Hacking Techniques	3
CS 656	Internet and Higher-Layer Protocols	3
YWCC 691	Graduate Capstone Project	3

PTC (Professional and Technical Communications) Courses		6
PTC 601	Advanced Professional and Technical Communication	3
PTC 620	Proposal Writing	3
PTC 622	Working in Teams: Collaborative and Interpersonal Communications	3
PTC 624	Professional and Technical Editing	3
PTC 628	Analyzing Social Networks	3
PTC 629	Theory and Practice of Social Media	3
PTC 632	Content Management and Information Architecture	3
Management Courses		6
Select two of the following:		
ACCT 615	Management Accounting	3
EM 636	Project Management	3
FIN 600	Corporate Finance I	3
MGMT 641	Global Project Management	3
MGMT 650	Knowledge Management	3
MGMT 682	Business Research Methods I	3
MGMT 688	Information Technology, Business and the Law	3
MGMT 691	Legal and Ethical Issues in a Digital World	3
Cybersecurity Elective Courses		6
CS 610	Data Structures and Algorithms	3
CS 630	Operating System Design	3
CS 631	Data Management System Design	3
CS 632	Advanced Database System Design	3
CS 634	Data Mining	3
CS 643	Cloud Computing	3
CS 648	Cyber Sec Investigations & Law	3
CS 660	Digital Watermarking	3
CS 673	Software Design and Production Methodology	3
CS 696	Network Management and Security	3
CS 700B	Master's Project	3
CS 708	Advanced Data Security and Privacy	3
CS 678	Topics in Smartphone Sec & Rel	3
CS 684	Software Testing and Quality Assurance	3
CS 708	Advanced Data Security and Privacy	3

CS 755	Security and Privacy in Wireless Networks	3
IS 601	Web Systems Development	3
IS 650	Data Visualization and Interpretation	3
IS 657	Spatiotemporal Urban Analytics	3
IS 665	Data Analytics for Info System	3
IS 680	Information Systems Auditing	3
IS 681	Computer Security Auditing	3
IS 682	Forensic Auditing for Computing Security	3
IT 620	Wireless Networks Security and Administration	3
IT 640	Network Services Administration	3
ECE 636	Computer Networking Laboratory	3
MATH 661	Applied Statistics	3

Is licensure required of program graduates to gain employment?

No

Will the institution seek accreditation for this program?

No

Add any additional information you would like brought to the attention of CUE/ CGE here

This update includes two previous updates that were already approved by the CGE, but were reverted in CIM due to a system misconfiguration:

1) CGE meting on November 12, 2020: removed ~~Removed~~ ECE 637 as an alternative to the core course CS **656**

2) CGE meeting on October 8, 2020: ~~656.~~ **Moved CS 696 from the set of Core courses into the set of Elective courses in the MS CSP program and in the professional science master option of the program.**

Attach any additional information you would like brought to the attention of CUE/ CGE here: Uploaded Files:

2020-10-08-MS-CSP.pdf
2020-11-12-MS CSP.pdf

Reviewer Comments

Program Change Request

Date Submitted: 12/23/20 8:25 pm

Viewing: **AD-ARCH-MAR : Master of Architecture**

Last approved: 07/14/20 2:52 pm

Last edit: 01/04/21 5:22 pm

Changes proposed by: Gernot Riether (griether)

Catalog Pages Using this Program	Master of Architecture

Department(s) / College(s)

Department	College
Architecture (ARCH)	Hillier Coll of Arch & Design (AD)

Name of Program	Master of Architecture
Academic Level(s)	Graduate
Degree Designation	MAR
Campus(es) where the	Newark

In Workflow

1. **ARCH Chair**
2. **AIS**
3. **AD Dean**
4. **Vice Provost of Graduate Studies**
5. President of the Faculty Senate
6. Provost's Office
7. Academic Issues Committee

Approval Path

1. 01/04/21 5:22 pm Gernot Riether (griether): Approved for ARCH Chair
2. 01/05/21 12:44 pm Mesfin Ayne (ayne): Approved for AIS
3. 01/06/21 12:11 pm John Cays (cays):

program will be offered

CIP Code

Effective Catalog Edition   2021-2022

Faculty Senate Review required?

Related Department(s)

Department(s)
Architecture (ARCH)

If the change involves altering the department's curriculum paradigm as currently outlined in the NJIT catalog, please attach existing and proposed paradigms.

Articulation with other institutions, if any

<div style="text-align:right">

Approved for AD Dean

History

1. May 21, 2020 by Gernot Riether (griether)
2. Jul 14, 2020 by Jessie Tsui (tsui)
3. Jul 14, 2020 by Mesfin Ayne (ayne)

</div>

Objectives

Briefly summarize the program and indicate its objectives; e.g., the nature and focus of the program, the knowledge and skills students will acquire, any cooperative arrangements with other institutions or external agencies in offering this program, etc.

Need

Provide justification of the need for this program. If the program falls within the liberal arts and sciences and does not specifically prepare students for a career, then provide evidence of student demand and indicate opportunities for students to pursue advanced study (if the degree is not terminal with regard to further education). If the program is career-oriented or professional in nature, then in addition to student demand give evidence of labor market need and results of prospective employer surveys. Report labor market need as appropriate on local, regional, and national bases. Specify job titles and entry-level positions for program graduates, and/or indicate opportunities for graduates to pursue additional studies.

Relationship to the University and State Master Plans

Describe the relationship of the program to the following: institutional master plans and priorities.

Relationship to Similar Programs in the State and Region

List similar programs within the state and in neighboring states. How does this program compare to those currently being offered?

Distinguished Programs Nationally

For doctoral programs: Supply a select list of distinguished programs nationally in this discipline.

Students

Estimate anticipated enrollments from the program's inception until a steady state or optimum enrollment is reached.

Resources to Support the Program

Briefly describe the additional resources needed to implement and operate the program during the program's first five years, e.g., the number of full-time faculty, number of adjunct faculty, computer equipment, print and non-print material, etc.

Course
Development
Plan

Names of faculty
involved

Libraries and
Computing
Facilities

Classrooms and
Laboratories
Needs

Catalog Description (For PHD programs, include information about the qualifying exams, and other program milestones.)

The Hillier College's Master of Architecture (M.Arch.) at NJIT is a post-baccalaureate professional program, fully accredited by the National Architectural Accrediting Board (NAAB). The newly trimmed 90-credit program is intended for applicants who have earned a Bachelor of Science, Bachelor of Arts, or a graduate degree in a field other than architecture who wish to earn a degree leading toward professional licensure as an architect.

Candidates entering the Professional M. Arch. program complete a required core sequence covering architectural history, integrated building systems, digital design and representation applications as a series of progressive and cumulative co-requisites for the first four design studios. After completion of this mandatory core sequence, students are given a selection of design studios, along with additional elective courses to focus their professional education in a number of specializations including, urban, sustainable, and advanced computational design.

A shortened program is available through advanced placement for applicants who have a pre-professional Bachelor of Science or Bachelor of Arts in Architecture or another field directly related to architecture, or students who have a Bachelor of Architecture from a non-NAAB accredited program. **Full-time and part time degree options available. In addition to all coursework required by the agreed upon individual course of study, based on academic transcript and portfolio review, each student must satisfy the minimum credit requirements to earn an NAAB accredited degree program. In most cases these will require more than the minimum of 168 semester credit hours of combined undergraduate and graduate coursework and more than the minimum of 30 semester credits of graduate coursework.**

~~Full-time and part time degree optionsavailable.~~

Curriculum

Plan of Study Grid

First Year

1st Semester		Credits
ARCH 501G	Architecture Studio I	6
ARCH 555G	Tools and Techniques I	3
ARCH 528G	History of Architecture I	3
ARCH 541G	Construction I	3
	Term Credits	15

2nd Semester

ARCH 502G	Architecture Studio II	6
ARCH 500G	Tools and Techniques II	3
ARCH 529G	History of Architecture II	3
ARCH 542G	Construction II	3
	Term Credits	15

Second Year

1st Semester

ARCH 503G	Architecture Studio III	6
ARCH 545G	Structures I	3
ARCH 543G	Environmental Control Systems I	3
ARCH 549G	Landscape and Urbanism	3
	Term Credits	15

2nd Semester

ARCH 504G	Architecture Studio IV	6
ARCH 548G	Structures II	3
ARCH 544G	Environmental Control Systems II	3
ARCH XXXG	History / Theory or Technology	3
	Term Credits	15

Third Year

1st Semester

ARCH 505G	Advanced Architecture Studio I	6
ARCH 569G	Professional Practice I	3
ARCH XXXG	History / Theory or Technology	3
ARCH XXXG	History / Theory or Technology	3
	Term Credits	15

2nd Semester

ARCH 506G	Advanced Architecture Studio II	6
ARCH 579G	Professional Practice II	3
ARCH 547G	Synthesis Seminar	3
ARCH XXXG	History / Theory or Technology	3

Term Credits	15
Total Credits	90

Is licensure required of program graduates to gain employment?

No

Will the institution seek accreditation for this program?

Yes

List the accrediting organization: NAAB

Add any additional information you would like brought to the attention of CUE/ CGE here

Attach any additional information you would like brought to the attention of CUE/ CGE here: Uploaded Files: MArch Old:New 04:15:20.pdf

Reviewer Comments

Key: 217

Program Change Request

Date Submitted: 01/09/21 3:49 pm

Viewing: **AD-ARCH-MS : M.S. in Architecture**

Last edit: 01/09/21 3:49 pm

Changes proposed by: Gernot Riether (griether)

Department(s) / College(s)	Department	College
	Architecture (ARCH)	Hillier Coll of Arch & Design (AD)

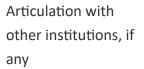|	
Name of Program	M.S. in Architecture
Academic Level(s)	Graduate
Degree Designation	MS
Campus(es) where the program will be offered	Newark
CIP Code	
Effective Catalog Edition	2021-2022
Faculty Senate Review required?	
Related Department(s)	

If the change involves altering the department's curriculum paradigm as currently outlined in the NJIT catalog, please attach existing and proposed paradigms.

Articulation with
other institutions, if
any

Objectives

Briefly summarize the program and indicate its objectives; e.g., the nature and focus of the program, the knowledge and skills students will acquire, any cooperative arrangements with other institutions or external agencies in offering this program, etc.

Need

Provide justification of the need for this program. If the program falls within the liberal arts and sciences and does not specifically prepare students for a career, then provide evidence of student demand and indicate opportunities for students to pursue advanced study (if the degree is not terminal with regard to further education). If the program is career-oriented or professional in nature, then in addition to student demand give evidence of labor market need and results of prospective employer surveys. Report labor market need as appropriate on local, regional, and national bases. Specify job titles and entry-level positions for program graduates, and/or indicate opportunities for graduates to pursue additional studies.

Relationship to the University and State Master Plans

Describe the relationship of the program to the following: institutional master plans and priorities.

Relationship to Similar Programs in the State and Region

List similar programs within the state and in neighboring states. How does this program compare to those currently being offered?

Distinguished Programs Nationally

For doctoral programs: Supply a select list of distinguished programs nationally in this discipline.

Students

Estimate anticipated enrollments from the program's inception until a steady state or optimum enrollment is reached.

Resources to Support the Program

Briefly describe the additional resources needed to implement and operate the program during the program's first five years, e.g., the number of full-time faculty, number of adjunct faculty, computer equipment, print and non-print material, etc.

Course
Development Plan

Names of faculty
involved

Libraries and
Computing
Facilities

Classrooms and
Laboratories Needs

Catalog Description (For PHD programs, include information about the qualifying exams, and other program milestones.)

Curriculum

The Master of Science in Architecture (M.S. ~~The program consists of 30 credits of required and elective courses and may be taken either full- or part-time.~~**Arch.)** ~~Students in preparation for further study~~ at **NJIT's Hillier College** is a **post-professional STEM-designated program that consists of 30 credits and** ~~the doctoral level~~ may be **taken either full- or part-time. The program is designed for graduates from architecture schools or architects that wish** ~~required~~ to **specialize in areas such as Sustainability, Urbanism or Computation. Students in preparation for further study at the doctoral level may be required to** complete an additional 6 credit thesis. Students are required to design their programs in consultation with the graduate advisor and lead faculty member in the area of **specialization in Sustainability, Urbanism and/or Computation.** ~~specialization.~~

~~Among the available areas of concentration are Sustainable Architecture, Resilient Architecture, Architectural History, Digital Design, and UrbanSystems.~~To remain in good academic standing, students must maintain a cumulative GPA of 3.0 in graduate courses.

Is licensure required of program graduates to gain employment?

Will the institution seek accreditation for this program?

Add any additional
information you
would like brought
to the attention of
CUE/ CGE here

Attach any additional information you would like brought to the
attention of CUE/ CGE here: Uploaded Files:

Reviewer
Comments

Program Change Request

Date Submitted: 02/08/21 4:41 pm

Viewing: **SM-BDS-PHD : PHD. in Business Data Science**

Last approved: 08/19/20 3:05 pm

Last edit: 03/11/21 1:04 pm

Changes proposed by: Michael S Koskinen (michaelk)

Catalog Pages Using this Program	Ph.D in Business Data Science

Department(s) / College(s)	Department	College
	Management (MGMT)	Martin Tuchman Sch of Mgmnt (SM)

Name of Program   PHD. in Business Data Science

Academic Level(s)   Doctoral

Degree Designation   PHD

Campus(es) where the program will be offered   Newark

CIP Code

Effective Catalog Edition   2021-2022

Faculty Senate Review required?

Related Department(s)

If the change involves altering the department's curriculum paradigm as currently outlined in the NJIT catalog, please attach existing and proposed paradigms.

Articulation with other institutions, if any

Objectives

Briefly summarize the program and indicate its objectives; e.g., the nature and focus of the program, the knowledge and skills students will acquire, any cooperative arrangements with other institutions or external agencies in offering this program, etc.

Need

Provide justification of the need for this program. If the program falls within the liberal arts and sciences and does not specifically prepare students for a career, then provide evidence of student demand and indicate opportunities for students to pursue advanced study (if the degree is not terminal with regard to further education). If the program is career-oriented or professional in nature, then in addition to student demand give evidence of labor market need and results of prospective employer surveys. Report labor market need as appropriate on local, regional, and national bases. Specify job titles and entry-level positions for program graduates, and/or indicate opportunities for graduates to pursue additional studies.

Relationship to the University and State Master Plans

Describe the relationship of the program to the following: institutional master plans and priorities.

Relationship to Similar Programs in the State and Region

List similar programs within the state and in neighboring states. How does this program compare to those currently being offered?

Distinguished Programs Nationally

For doctoral programs: Supply a select list of distinguished programs nationally in this discipline.

Students

Estimate anticipated enrollments from the program's inception until a steady state or optimum enrollment is reached.

Resources to Support the Program

Briefly describe the additional resources needed to implement and operate the program during the program's first five years, e.g., the number of full-time faculty, number of adjunct faculty, computer equipment, print and non-print material, etc.

Course
Development Plan

Names of faculty
involved

Libraries and
Computing
Facilities

Classrooms and
Laboratories Needs

Catalog Description (For PHD programs, include information about the qualifying exams, and other program milestones.)

Curriculum

Ph.D. in Business Data Science

Degree Requirements

Ph.D. students in Business Data Science (BDS) are expected to conduct innovative and independent research and have their research findings published in peer-reviewed scholarly journals and academic conference proceedings.

By the beginning of the first semester, upon the approval of the Ph.D. program director, student must have filed a Plan of Study (POS) that lists the courses to be taken and the timeline of study. Any modification to the POS must be approved by the Ph.D. program director and dissertation advisor (if chosen).

Coursework

Bridge Courses

~~Course Requirements~~**Students who lack fundamental knowledge** ~~By the end~~ of **certain subjects are required to complete** ~~year one, student must have completed any~~ assigned bridge courses **by the end** ~~upon the PhD program academic advisor's suggestion with a grade~~ of **year one, with a grade of** at least a B in each **assigned** course. **The assignment** ~~In addition to the listed elective courses, a student may take other relevant courses, subject to the approval~~ **of bridge courses is based on recommendation** ~~the dissertation advisor~~ **and approval by the Ph.D. program director. Subjects and bridge course examples include:**

~~The list of bridge coursesare:~~Programming and data structure (e.g. ~~NJIT~~ CS 280 or CS 505)

Advanced Calculus (e.g. **MATH 211)**

~~NJIT Math 211)~~Probability and Statistics (e.g. ~~NJIT~~ MGMT 216 or **MATH** ~~Math~~ 333)

Basic business knowledge (e.g. ~~NJIT~~ MGMT **492)** ~~492, MGMT 501)~~

Table DR-1: List of Core Courses

MGMT 682	Business Research Methods I	3
MGMT 782	Business Research Methods II	3
MGMT 635	Data Mining and Analysis	3
or CS 634	Data Mining	
CS 631	Data Management System Design	3
or IS 631	Enterprise Database Management	
~~MATH 660~~	~~Introduction to statistical Computing with SAS and R~~	~~3~~
~~MATH 644~~	~~Regression Analysis Methods~~	~~3~~

Section II: Core Electives (At least two courses)

MGMT 735	**Deep Learning in Business**	**3**
MRKT 766	**Seminar in Marketing Analytics**	**3**
MGMT 740	**Innovation & Entrepreneurship**	**3**

FIN 780 Theory and Practice of Financial Research

Section III: Core Electives- MATH (At least one course)

MATH 664	**Methods for Statistical Consulting**	**3**
MATH 660	**Introduction to statistical Computing with SAS and R**	**3**
MATH 662	**Probability Distributions**	**3**
MATH 678	**Stat Methods in Data Science**	**3**
MATH 680	**Advanced Statistical Learning**	**3**
MATH 691	**Stochastic Processes with Applications**	**3**
MATH 699	Design and Analysis of Experiments	3

Section IV: Electives

BDS 725	**Independent Study I**	**3**
BDS 726	**Independent Study II**	**3**
ACCT 615	Management Accounting	3
ECON 610	Managerial Economics	3
~~EM 655~~	~~Management Aspects of Information Systems~~	~~3~~
HRM 601	Organizational Behavior	3
HRM 630	Managing Technological and Organizational Change	3
MGMT 620	Management of Technology	3
~~MGMT 630~~	~~Decision Analysis~~	~~3~~
MGMT 620	**Management of Technology**	**3**
MGMT 640	New Venture Management	3
~~MGMT 641~~	~~Global Project Management~~	~~3~~
~~MGMT 649~~	~~Convention, Creativity and Innovation~~	~~3~~
~~MGMT 656~~	~~Public Policy and Business~~	~~3~~
MGMT 650	**Knowledge Management**	**3**
MGMT 660	**Managing Supply and Value Chains**	**3**
MGMT 670	International Business	3
MGMT 680	Entrepreneurial Strategy	3
~~MGMT 688~~	~~Information Technology, Business and the Law~~	~~3~~
MGMT 686	**Corporate Governance**	**3**
MGMT 691	Legal and Ethical Issues in a Digital World	3
MGMT 692	Strategic Management	3
~~MGMT 710~~	~~Forecasting Methods for Business Decisions~~	~~3~~
MIS 625	Management Strategies for E-Commerce	3
MIS 645	Information Systems Principles	3
MIS 648	Decision Support Systems for Managers	3
MIS 680	Management Science	3
MRKT 620	Competing in Global Markets	3
MRKT 631	Marketing Research	3
MRKT 636	Design and Development of High Technology Products	3
~~MRKT 637~~	~~Marketing Communications and Promotions~~	~~3~~
~~PTC 628~~	~~Analyzing Social Networks~~	~~3~~
MRKT 645	**Internet Marketing Strategy**	**3**

Course	Title	Credits
FIN 600	Corporate Finance I	3
FIN 610	Global Macro Economics	3
FIN 611	**Intro to Topics in Fin Tech**	**3**
FIN 616	**Data Driven Financial Modeling**	**3**
FIN 620	**Adv Financial Data Analytics**	**3**
FIN 624	Corporate Finance II	3
FIN 626	Financial Investment Institutions	3
FIN 627	International Finance	3
FIN 634	Mergers, Acquisitions, and Restructuring	3
FIN 641	Derivatives Markets	3
FIN 650	Investment Analysis and Portfolio Theory	3
~~FIN 655~~	~~Financial Innovations and Market Failures~~	~~3~~
CS 610	Data Structures and Algorithms	3
~~CS 632~~	~~Advanced Database System Design~~	~~3~~
CS 644	**Introduction to Big Data**	**3**
CS 675	Machine Learning	3
~~CS 750~~	~~High Performance Computing~~	~~3~~
~~CS 645~~	~~Security and Privacy in Computer Systems~~	~~3~~
~~or CS 708~~	~~Advanced Data Security and Privacy~~	
~~CS 666~~	~~Simulation for Finance~~	~~3~~
~~ECE 601~~	~~Linear Systems~~	~~3~~
~~ECE 673~~	~~Random Signal Analysis I~~	~~3~~
CS 677	**Deep Learning**	**3**
CS 732	**Advanced Machine Learning**	**3**
CS 782	**Pattern Recognition and Applications**	**3**
CS 786	**Special Topics**	**3**
ECE 744	**Optimization for Communication Networks**	**3**
ECE 788	**Selected Topics in Electrical and Computer Engineering**	**3**
IS 650	**Data Visualization and Interpretation**	**3**
IS 657	**Spatiotemporal Urban Analytics**	**3**
IS 661	**User Experience Design**	**3**
IS 665	Data Analytics for Info System	3
~~IS 682~~	~~Forensic Auditing for Computing Security~~	~~3~~
IS 684	Business Process Innovation	3

~~IS 687~~	~~Transaction Mining and Fraud Detection~~	~~3~~
IS 688	Web Mining	3
IS 698	**Special topics in Information Systems**	**3**
IS 735	**Social Media**	**3**
EM 602	**Management Science**	**3**
EM 640	**Distribution Logistics**	**3**
IE 621	**Systems Analysis and Simulation**	**3**
IE 650	Advanced Topics in Operations Research	3
~~IE 687~~	~~Healthcare Enterprise Systems~~	~~3~~
~~IE 688~~	~~Healthcare Sys Perfor Modeling~~	~~3~~
~~IS 634~~	~~Information Retrieval~~	~~3~~
IE 673	**Total Quality Management**	**3**
IE 659	**Supply Chain Engineering**	**3**

A student entering the program with only a Bachelor's degree in related areas shall take 36 credits of advanced courses **(600-level and 700-level)** beyond the Bachelor's degree with the approval **by** ~~of~~ the **Ph.D.** ~~PhD program academic advisor.~~ **program director.** The 36 credits shall include ~~six~~ core ~~courses~~ and ~~six~~ elective courses, ~~and are~~ in addition to the credits for dissertation research. Among the 36 credits, at least 12 credits must be **700-level courses.** ~~of the 700 level courses or courses with PhD track projects.~~

A student entering the program with a Master's degree or above in the related areas shall take **21** ~~18~~ credits of advanced courses **(600-level and 700-level)** ~~beyond the Master's degree~~ or ~~its~~ equivalent with the approval **by the Ph.D.** ~~of the PhD program academic advisor.~~ **program director. Students with strong credentials in business and/or data science and with a Master's degree may be approved to take 18 credits of advanced courses, subject to the approval by the Ph.D. committee. At least 12 credits must be 700-level courses.**

The required course ~~These 18~~ credits **listed above** are **those** in addition to the credits for dissertation **research (BDS 792B and BDS 790A).** ~~research. Among the 18 credits, at least 12 credits must be of the 700 level courses or courses with PhD trackprojects.All core courses are listed in TableDR-1.Among them, MGMT 682 is a pre-requisite of MGMT782.Typically, MGMT 682, Math 660 and Math 644 are only offered in the Fallsemesters.Table DR-2 provides a partial list of the elective courses available to programstudents.In addition to the listed elective courses, a student may take other relevant courses, subject to the approval of the dissertation advisor andPh.D.programdirector.~~GPA

Students must maintain a cumulative GPA of 3.0 or higher. **As per current NJIT policy, students receiving financial support, as assistantship and fellowship, for the first time must have a cumulative GPA of 3.5 or higher. To continue receiving support, they must maintain a cumulative GPA of at least 3.0**

Qualifying Exams ~~Examination~~

All Ph.D. students are required to take **Core Course** ~~a~~ Qualifying **Exams** ~~Examination (Part-1)~~ by the end of year **one** ~~one,~~ and must pass the **Core Course** Qualifying **Exams** ~~Examination (Part-1)~~ by the end of year two. The **Core Course** Qualifying **Exams** ~~Examination (Part-1)~~ covers subject matter drawn from the core courses. All Ph.D. students are required to take **Subject** Qualifying **Exam** ~~Examination (Part-2)~~ by the end of year **two.** ~~two, which covers a subject area chosen by the student based on his/her dissertation research area.~~ **Each Subject Qualifying Exam covers a subject area based on the student's research interest.**

Dissertation Requirements

Registration

In addition to ~~Besides~~ the **required** ~~classroom~~ course **credits listed above,** ~~requirements,~~ students **must meet** ~~shall also take the following courses for~~ Ph.D. dissertation requirements. **Students must register BDS 792B for dissertation proposal and BDS 790A for dissertation.** ~~Ph.D.students are required to register each semester for a zero-credit course: BDS 791 Graduate Seminar. Full-time students must attend all BDS 791 seminars each semester unless justifiable reasons are approved by the program director inadvance.Part-time students must attend at least 50% of the BDS 791 seminars in their firstyear.After their first year, they can perform alternative work as assigned by the program director in lieu of attendingseminars.~~The requirement of **BDS 792B** ~~pre-doctoral research (BDS 792B)~~ and **BDS 790A** ~~doctoral dissertation (BDS 790B)~~ credits are described at: http://www5.njit.edu/graduatestudies/content/new-phd-credit-requirements/ **and https://catalog.njit.edu/graduate/academic-policies-procedures/**.

~~Specifically,Ph.D.students who pass the Qualifying Examination (part-1) must then register for 3 credits of pre-doctoral research (BDS 792B) per semester until they defend successfully the dissertation proposalPh.D.students who defend the dissertation proposal successfully must then register for the 1-credit dissertation course (BDS 790A) each semester until they complete all degreerequirements.Students may take courses simultaneously with the 790 or 792 course as perPh.D.program guidelines or dissertation committeerecommendation.~~Dissertation Advisor

Students are recommended to choose a dissertation advisor as soon as possible, but no later than 3 months after passing the **Core Course** Qualifying **Exams.** ~~Exam (part-1).~~

Dissertation Proposal Defense

The ~~A~~ dissertation ~~committee must be established, and the dissertation~~ proposal must be defended **in a public forum** successfully either by the end of the third year **in the** ~~in the~~ Ph.D. program or four semesters after registering for the first time in the 792 pre-doctoral research course, whichever occurs earlier.

Dissertation Defense

~~Full-time~~

PhD students must defend the dissertation successfully by the end of the sixth year in the **Ph.D.** ~~PhD program.~~ **program.**

Please refer to the following website for other **institution-wide** ~~Institution-wide~~ policies and procedures for Ph.D. programs:

https://catalog.njit.edu/graduate/academic-policies-procedures/

Other Requirements

Ph.D. students are required to register each semester for a 0-credit ~~zero-credit~~ **course: BDS 791 Doctoral** ~~Graduate~~ **Seminar. Full-time students must attend** ~~all~~ **BDS 791 seminars each semester unless justifiable reasons are approved by the program director in advance. Part-time students are expected to** ~~must~~ **attend at least 50% of the BDS 791 seminars in their first year. They may be asked to** ~~After their first year, they can~~ **perform alternative work** ~~as~~ **assigned by the program director in lieu of attending seminars.**

In their first year, Ph.D. students are required to take a 0-credit course: INTD 799 Responsible Conduct of Research and receive a Satisfactory grade. ~~http://www5.njit.edu/graduatestudies/sites/graduatestudies/files/policies-procedures-doctoral_updated_2015.pdf~~

Is licensure required of program graduates to gain employment?

Will the institution seek accreditation for this program?

Add any additional
information you
would like brought
to the attention of
CUE/ CGE here

Attach any additional information you would like brought to the
attention of CUE/ CGE here: Uploaded Files:

Reviewer
Comments

Melodi D. Guilbault (guilbaul) (02/08/21 3:02 pm): Rollback: Per my email

Key: 235

Program Change Request

Date Submitted: 03/01/21 6:00 pm

Viewing: **CC-CS-PHD : PHD. in Computer Science**

Last approved: 02/28/21 2:25 pm

Last edit: 03/01/21 5:59 pm

Changes proposed by: Reza Curtmola (crix)

Catalog Pages Using this Program	Ph.D. in Computer Science

Department(s) / College(s)	Department	College
	Computer Science (CS)	Ying Wu Coll of Computing (CC)

Name of Program — PHD. in Computer Science

Academic Level(s) — Doctoral

Degree Designation — PHD

Campus(es) where the program will be offered — Newark

CIP Code

Effective Catalog Edition — 2021-2022

Faculty Senate Review required?

Related Department(s)

If the change involves altering the department's curriculum paradigm as currently outlined in the NJIT catalog, please attach existing and proposed paradigms.

Articulation with other institutions, if any

Objectives

Briefly summarize the program and indicate its objectives; e.g., the nature and focus of the program, the knowledge and skills students will acquire, any cooperative arrangements with other institutions or external agencies in offering this program, etc.

Need

Provide justification of the need for this program. If the program falls within the liberal arts and sciences and does not specifically prepare students for a career, then provide evidence of student demand and indicate opportunities for students to pursue advanced study (if the degree is not terminal with regard to further education). If the program is career-oriented or professional in nature, then in addition to student demand give evidence of labor market need and results of prospective employer surveys. Report labor market need as appropriate on local, regional, and national bases. Specify job titles and entry-level positions for program graduates, and/or indicate opportunities for graduates to pursue additional studies.

Relationship to the University and State Master Plans

Describe the relationship of the program to the following: institutional master plans and priorities.

Relationship to Similar Programs in the State and Region

List similar programs within the state and in neighboring states. How does this program compare to those currently being offered?

Distinguished Programs Nationally

For doctoral programs: Supply a select list of distinguished programs nationally in this discipline.

Students

Estimate anticipated enrollments from the program's inception until a steady state or optimum enrollment is reached.

Resources to Support the Program

Briefly describe the additional resources needed to implement and operate the program during the program's first five years, e.g., the number of full-time faculty, number of adjunct faculty, computer equipment, print and non-print material, etc.

Course
Development Plan

Names of faculty
involved

Libraries and
Computing
Facilities

Classrooms and
Laboratories Needs

Catalog Description (For PHD programs, include information about the qualifying exams, and other program milestones.)

Curriculum

Course Requirements

For students entering the program with a Master's degree in Computer Science or related areas, **12-21** 12-24 credits at the 600 and 700 level (at least 12 credits at the 700 **level) are required.** level). The default requirement is **21** 24 credits, but waivers for 600 level courses may be determined in consultation with and written approval by the PhD committee based on the student's prior background in the **three** four areas of the qualifying examinations. At most 6 credits can be

Independent Study in Computer Science (CS 725 and/or CS 726). If a student takes two Independent Study courses, then they should be done with two different professors. At least 6 credits must be for lecture-based courses at the 700 level.

For students entering the program without a Master's degree in Computer Science or related areas, 36 credits at the 600 and 700 level. At least 12 credits must be at the 700 level, and out of those at most 6 credits can be Independent Study in Computer Science (CS 725 and/or CS 726). If a student takes two Independent Studies, then they should be done with two different professors. At least 6 credits must be for lecture-based courses at the 700 level.

-Doctoral Dissertation Credits

For students who were admitted in the program in the Fall 2015 semester or after, the rules are described at: http://www5.njit.edu/graduatestudies/content/new-phd-credit-requirements/

For students who were admitted in the program before the Fall 2015 semester, students must complete 30 credits of CS 790. A maximum of 6 credits of CS 792 Pre-Doctoral Research may be used toward the CS 790 requirement.

CS 791: Doctoral Seminar

Full-time students are required to enroll in CS 791 every semester. *Full-time PhD students are required to attend 2/3 of the weekly Wednesday departmental seminars.*

Qualifying Examinations

All PhD students are required to take qualifying examinations in three areas.

One examinations is in the combined area of:

CS 610	Data Structures and Algorithms
CS 611	Introduction to Computability and Complexity

Two examinations are in the following areas:

CS 630	Operating System Design
CS 631	Data Management System Design
CS 634	Data Mining
CS 656	Internet and Higher-Layer Protocols
CS 659	Image Processing and Analysis
CS 670	Artificial Intelligence
CS 675	Machine Learning

PhD students are allowed to take up to four qualifying examinations and are required to pass at least three out of the four (the combined CS 610 and CS 611 examination must be among the three examinations the students pass). If they fall short of the three examinations in the first year, then they must make up the

number of missing examinations the second year and may take one more examination than the number they are required to pass.

Is licensure required of program graduates to gain employment?

No

Will the institution seek accreditation for this program?

No

Add any additional information you would like brought to the attention of CUE/ CGE here **A reduction in the number of required credits from 24 to 21 credits, based on the previously approved reduction in the number of Qual Exams from 4 to 3.** ~~Removed 3 Qual Exam areas for which courses are not offered on a regular basis.~~

Attach any additional information you would like brought to the attention of CUE/ CGE here: Uploaded Files:

Reviewer Comments

Program Change Request

Date Submitted: 03/17/21 1:53 pm

Viewing: **AD-ARCH-MS : Master of Urban Design (MUD)** ~~Infrastructure Planning~~

Last edit: 03/17/21 1:53 pm

Changes proposed by: Gernot Riether (griether)

Catalog Pages Using this Program	Master of Infrastructure Planning

Department(s) / College(s)	Department	College
	Architecture (ARCH)	Hillier Coll of Arch & Design (AD)

Name of Program	Master of **Urban Design (MUD)** ~~Infrastructure Planning~~
Academic Level(s)	Graduate
Degree Designation	MS
Campus(es) where the program will be offered	Newark
CIP Code	**303301** - **Sustainability Studies.**
Effective Catalog Edition	2021-2022
Faculty Senate Review required?	

Related
Department(s)

If the change involves altering the department's curriculum paradigm
as currently outlined in the NJIT catalog, please attach existing and
proposed paradigms.

Articulation with
other institutions, if
any

Objectives

Briefly summarize the program and indicate its objectives; e.g., the nature and focus of the program, the knowledge and skills students will acquire, any
cooperative arrangements with other institutions or external agencies in offering this program, etc.

Through a robust sequence of design studios and seminars, program participants develop the technical skills, intellectual rigor, and professional expertise to tackle the challenges of urbanization. Students are trained to look critically at the built environment and to identify how they can use their expertise to make a difference in the world.

Through urban design studios, students develop design proposals that will seek to transform urban conditions by making cities more equitable, sustainable, and beautiful. Projects range in scale from the design of discrete physical interventions, to the restructuring of urban districts, to the reimagining of mega-regions. During the first semester, program participants engage in design projects aimed at improving local urban conditions in the New York - New Jersey metropolitan region, whereas the second semester is dedicated to inventing new urban design paradigms in international settings.

The program focuses on innovative urban design and planning practice that is informed by in-depth local analysis and global understanding of large-scale forces at work in city-making and urbanization. Using new and emergent techniques, students learn to analyze and visualize both the physical and non-physical forces shaping urban conditions, to design in a variety of urban contexts and scales, and to critically evaluate the social, economic, and ecological impact of their own urban design proposals and interventions.

Need

Provide justification of the need for this program. If the program falls within the liberal arts and sciences and does not specifically prepare students for a career, then provide evidence of student demand and indicate opportunities for students to pursue advanced study (if the degree is not terminal with regard to further education). If the program is career-oriented or professional in nature, then in addition to student demand give evidence of labor market need and results of prospective employer surveys. Report labor market need as appropriate on local, regional, and national bases. Specify job titles and entry-level positions for program graduates, and/or indicate opportunities for graduates to pursue additional studies.

While this is a growing field, there is not one single urban design program in New Jersey.

There is a compelling need for designers to address the challenges of the urban built environment. As stated by the United Nations, "half of humanity – 3.5 billion people – lives in cities today and 5 billion people are projected to live in cities by 2030...the world's cities occupy just 3 percent of the Earth's land, but account for 60-80 percent of energy consumption and 75 percent of carbon emissions...rapid urbanization is exerting pressure on fresh water supplies, sewage, the living environment, and public health... cities account for between 60 and 80 percent of energy consumption and generate as much as 70 percent of human-induced greenhouse gas emissions, and that by 2050 70 percent of the world population is predicted to live in urban settlements." The UN has foregrounded sustainable cities and communities as one of its 17 goals for future development. With these globally-sanctioned goals, there will be continued and increasing demand for professionals worldwide who can address urban design challenges.

Global crises such as climate change, resource depletion, social exclusion, and economic inequality are inextricably linked to urbanization. These complicated and complex challenges require strategic thinking and interdisciplinary collaboration. Urban design practice--which is centered on visualizing large-systems, coordinating multi-disciplinary collaboration, and interscalar design is more crucial than ever to build a more sustainable and equitable urban environment.

The 30-credit program equips students to qualify for employment in a range of institutional, governmental, nonprofit, and private-sector settings. Students gain a broad theoretical knowledge of the historical, political, and social frameworks of urban design, while developing the practical skills to perform in professional contexts.

Relationship to the University and State Master Plans

Describe the relationship of the program to the following: institutional master plans and priorities.

As a professionally focused masters degree program, the Master of Urban Design (MUD) is consistent with the NJIT 2020 Strategic Plan's stated need to collaborate with a designated industry. Its goal is to provide students with expertise in the urban design discipline with an emphasis on "competence in management, ethics, policy, communication skills and leadership." Also in accordance with the Strategic Plan, MUD is an applied masters degree program dedicated to making NJIT competitive locally and nationally by graduating students who can immediately meet the needs of specialized industries, in this case, urban design.

The MUD program is also in concordance with the recently adopted NJIT 2025 Strategic Plan goal of enhanced community engagement by striving to "working with local economic development, community investment, and business associations … to develop meaningful academic, experiential learning opportunities matching students with local businesses. Such opportunities will provide students with meaningful work experience and promote the local economy." MUD's interactions with the City of Newark and other entities will encourage the development of service-learning projects and monitoring, recording, and broadly communicating such activities for outcomes beneficial to cities.

As stated in both strategic plans, the Master of Urban Design affirms NJIT's strategic mission of committing to the pursuit of excellence in graduate and continuing professional education that prepares students for productive careers and amplifies their potential for lifelong personal and professional growth. The program will accomplish this by conducting urban research and design with an emphasis on NJIT's stated strategy of applied, interdisciplinary efforts encompassing architecture and the sciences, engineering, mathematics, transportation and infrastructure systems, information and communications technologies. These initiatives will serve both NJIT's urban environment and the broader society of the state and nation by conducting public policy studies, making educational opportunities widely available and initiating community-building projects. In doing so it will apply each of NJIT's core values of Civility, Social Responsibility, Diversity, and Communication.

Relationship to Similar Programs in the State and Region

List similar programs within the state and in neighboring states. How does this program compare to those currently being offered?

There are no similar programs in the State of New Jersey. New York and Pennsylvania have urban design programs. The institutions in New York that have similar programs are:

- Columbia University, MS Architecture and Urban Design, 45 "points" over 3 semesters

- Parsons the New School, MS in Design and Urban Ecologies, 60 credits over 4 semesters (with thesis studio in fourth semester)

- Pratt Institute, MS Architecture and Urban Design (M.S. AUD) (post-professional degree), 33 credits over 3 semesters; MS in Urban Placemaking and Management (linked to Pratt Center), 40 credits over 4 semesters and includes internship with focus areas in Community-Based Design, Parks, Open Space, and Green Infrastructure, and Transportation and Main Street Management

- City College of New York, (website has conflicting information and program is in flux) Master of Urban Design (M.U.D.) (post-professional degree), 32 credits over 2 semesters

- NYIT, MS Architecture, Urban and Regional Design, 36 credits over 3 semesters

In addition to being the only graduate program in urban design in New Jersey, in comparison to similar programs in the tri-state region, NJIT's MUD is shorter (only two semesters compared to most programs having three or four), has the fewest credits (30), and does not require a professional degree in architecture or landscape architecture. Both Pratt and City College have 32 and 33 credits (respectively) but are "post-professional" degrees (meaning students must have a professional degree to apply). The program has a market-advantage in that it is shorter and has fewer barriers to entry compared to other programs.

Distinguished Programs Nationally

For doctoral programs: Supply a select list of distinguished programs nationally in this discipline.

N/A

Students

Estimate anticipated enrollments from the program's inception until a steady state or optimum enrollment is reached.

Historically, the Master of Infrastructure Planning (MIP) Program benefits from a steady stream
of NJIT undergraduates who enroll in the B.S. / M.S. dual-degree program. This consistent enrollment demonstrates the demand within HCAD for programs in urban design and urbanism.
Repositioned as a Master of Science in Urban Design, the program will complement this core enrollment with students seeking specialty professional knowledge that enables them to compete for public and private sector employment. These include positions at design and planning firms, municipal, state, and federal agencies, and at public authorities focused on housing, ports, and transportation. The program will serve both students with undergraduate professional degrees in architecture or the allied disciplines of planning and landscape architecture. Bridge courses will be available for students coming from non-design backgrounds.
An urbanism certificate program currently under development at HCAD can serve as a gateway
to enrollment.

Resources to Support the Program

Briefly describe the additional resources needed to implement and operate the program during the program's first five years, e.g., the number of full-time faculty, number of adjunct faculty, computer equipment, print and non-print material, etc.

Course Development Plan	**A course development plan is not required since all required courses are already existing. We are just changing the course numbers from MIP to ARCH**
Names of faculty involved	**Georgeen Theodore** **Maurie Cohen** **Gabrielle Esperdy**

Thomas Navin

Gernot Riether

Anthony Schuman

Darius Sollohub

Dare Brawley

Libraries and Computing Facilities	**We will continue to use the Littman Library and the existing 24-seat HCAD computer lab. We will also continue to use the HCAD modeling facilities and the NJIT Makerspace.**
Classrooms and Laboratories Needs	**All courses are to be run in studio and/or seminar rooms, with the exception of GIS which is currently taught and will continue to be taught in the existing 24-seat HCAD computer lab.**

Catalog Description (For PHD programs, include information about the qualifying exams, and other program milestones.)

Students must complete **30** ~~36~~ course credits through full- or part-time study. Up to 6 credits **toward** ~~toward~~ the degree may be waived based on previous academic study. Additional elective courses **may** ~~may~~ be taken in disciplines related to **urban design,** ~~infrastructure planning,~~ but do not count toward degree credit.

Curriculum

Required Courses

The following courses are required, subject to those waived in individual cases; however, no waivers will be given for studio courses. A typical full-time study plan over two semesters is shown below.

Plan of Study Grid

First Year

1st Semester		Credits
~~MIP 601~~	~~Course MIP 601 Not Found~~	~~6~~
~~MIP 631~~	~~History and Theory of Infrastructure~~	~~3~~
~~MIP 652~~	~~Course MIP 652 Not Found~~	~~3~~
~~MIP 675~~	~~Elements of Infrastructure Planning~~	~~3~~
~~ARCH 647~~	~~Visualizing Urbanism~~	~~3~~
ARCH 601	**Urban Design Studio**	**6**
ARCH 636	**History and Theory of Urban Planning and Design**	**3**

ARCH 677 Geographic Information Systems		3
Urban Design Elective		3
	Term Credits	15
2nd Semester		
~~MIP 602~~	~~Course MIP 602 Not Found~~	~~6~~
~~MIP 618~~	~~Public and Private Financing of Urban Areas 1~~	~~3~~
~~MIP 655~~	~~Course MIP 655 Not Found 1~~	~~3~~
~~MIP 673~~	~~Infrastructure Planning in Practice~~	~~3~~
~~MIP 674~~	~~Infrastructure and Architecture~~	~~3~~
ARCH 602 Urban Design Studio		6
ARCH 684 Topics of Sustainable Urbanism		3
ARCH 651 Public and Private Development		3
Urban Design Elective		3
	Term Credits	15
	Total Credits	30

1   Or substitute selected with the approval of Graduate Advisor.

Is licensure required of program graduates to gain employment?

No

Will the institution seek accreditation for this program?

No

Add any additional information you would like brought to the attention of CUE/ CGE here

The Master of Urban Design program is essentially a renaming and repositioning of the existing Master of Infrastructure Planning (MIP) Program that uses catalog-listed existing courses. No new course listings will be required to run the program.

Attach any additional information you would like brought to the attention of CUE/ CGE here: Uploaded Files:

Reviewer Comments

Sotirios Ziavras (ziavras) (03/11/21 1:19 pm): Rollback: Check the validity of "A key strength is the existing dual-degree relationship with Rutgers' Bloustein School, which currently offers the

Master of City and Regional Planning (M.C.R.P)/MIP dual degree.

https://bloustein.rutgers.edu/graduate/uppd/joint-degrees/"and resubmit