



## Requirements for Admission to Candidacy

Admission to the program for the M.S. in Computer Science does not constitute official admission to candidacy. Unconditionally admitted graduate students must apply for admission to candidacy within the first eighteen semester hours of graduate coursework and complete any additional requirements outlined for the specific degree program. If not completed within the first eighteen hours, a hold will be placed on the student's registration until Degree Plan/Admission to Candidacy process is completed.

### **Thesis**

1. Achieve unconditional admission to the program;
2. Complete 15 SH of graduate-level core courses;
3. Maintain a minimum overall 3.0 GPA; AND
4. Submit an approved thesis proposal.

### **Non-Thesis**

1. Achieve unconditional admission to the program;
2. Complete 15 SH of graduate-level core courses;
3. Maintain a minimum overall 3.0 GPA; AND
4. Submit an approved proposal for a research paper.

## Degree Options

There are two degree options: thesis and non-thesis. In the thesis option, the student must successfully complete and defend a thesis as well as complete other requirements stated below. See Thesis Guidelines for additional information. In the non-thesis option, the student must pass a written comprehensive exam and must successfully complete a research paper.

For both options what follows should be followed by the students during their program of study.

## Degree Requirements

The requirements for the degree are admission to candidacy, the successful completion of five graduate-level core courses and three to five elective courses (30 semester hours for the thesis option and 31 semester hours for the non-thesis option) with an overall grade point average of 3.0, and successful completion of a thesis or a paper. The degree requirements for the thesis and non-thesis options are as follows:

### **Approval Process**

#### ***Thesis Option***

See Thesis Guidelines.

#### **Thesis**

1. Admission to candidacy;
2. Complete 30 SH of graduate-level courses to include 6 SH of course CS 6699;
3. Maintain a minimum overall 3.0 GPA; AND
4. Successfully complete and defend a thesis.

#### **Non-Thesis**

1. Admission to candidacy;
2. Complete 31 SH of graduate-level courses to include 1 SH of course CS 6625;
3. Maintain a minimum overall 3.0 GPA;
4. Pass the written comprehensive examination; AND
5. Successfully complete an approved research paper.

### ***Non-Thesis Option***

The proposal for a research paper must be approved by the research supervisor. The research paper must be approved by the supervisor, CS Department Chair, Dean of College of Arts and Sciences and Dean of the Graduate School.

## Submission of Thesis or Research Paper

The thesis must be submitted according to Thesis Guidelines. The research paper must be submitted to the department at least two months prior to graduation and must be submitted to the Dean of the Graduate School office at least two weeks prior to the end of the term of graduation. Two approved copies of the research paper are necessary, one of which will be kept by the CS department.

## Curriculum

The CS degree curriculum consists of five core required courses and five (non-thesis option) or three (thesis option) elective courses. All courses offer three hours of credit except CS 6625-6626-6627, which offer one to three hours, and CS 6699, which offers one to six hours.

### **Thesis Option**

5 Core Courses	.....	15 SH
3 Electives	.....	9 SH
Thesis (CS 6699)	.....	6 SH
<b>TOTAL</b>	.....	<b>30 SH</b>

### **Non-Thesis Option\***

5 Core Courses	.....	15 SH
5 Electives	.....	15 SH
Research (CS 6625)	.....	1 SH
<b>TOTAL</b>	.....	<b>31 SH</b>

\* Also includes a comprehensive examination.

## Courses

The courses for the Master of Science degree in Computer Science are listed below:

<b>Core Courses</b> .....	<b>15 SH</b>
CS 5543 – Software Engineering	3 SH
CS 5545 – Computer Architecture	3 SH
CS 5549 – Analysis of Algorithms	3 SH
CS 5547 – Systems Analysis and Design	3 SH
CS 5550 – Operating System Principles	3 SH
<b>Elective Courses</b> .....	<b>9/15 SH</b>
CS 6640 – Data Base Management Concepts	3 SH
CS 6641 – Society and Information Systems	3 SH
CS 6643 – Theory and Design of Compilers	3 SH
CS 6646 – Information Systems for Operations and Management	3 SH

CS 6647 – Simulation and Modeling	3 SH
CS 6648 – Operations Research	3 SH
CS 6650 – Distributed Systems Principles	3 SH
CS 6651 – Artificial Intelligence	3 SH
CS 6652 – XML Technology Principles	3 SH
CS 6653 – Topics in Software Security and Reliability	3 SH
CS 6654 – Topics in Software Engineering	3 SH
CS 6655 – Digital Logic Design – Principles and Practices with Emphasis on Testable Semicustom Circuits	3 SH
CS 6656 – Design and Testing of Reliable Digital Systems	3 SH



6. To provide teachers with opportunities for advancement and to broaden and update their knowledge in order to enrich the classroom experience of their students.

### **Prerequisite Requirements**

Candidates for admission must have a baccalaureate degree, preferably in a technical subject area. Candidates should have completed foundation courses in the biological sciences, one year of general chemistry, and one course in statistics.

### **Admission Requirements for Master of Science in Environmental and Biological Sciences**

To apply for admission to the graduate program in Environmental and Biological Sciences, applicants must submit the following materials:

- Completed Application for Admission to the Graduate School
- Official transcript(s) from undergraduate and other graduate schools
- Official copy of GRE or MAT scores
- Student medical record or health certificate
- Letters (two) of recommendation
- Statement of interest
- Résumé listing professional experience, certifications, and other preparations

### **Unconditional Admission**

Unconditional admission may be granted to students who fulfill the following requirements:

- a. Hold a baccalaureate degree from a regionally accredited university with a minimum overall undergraduate grade point average of 2.5 (4.0 scale) or a 3.0 grade point average on the last 30 semester hours
- b. Demonstrate an adequate academic background in the sciences that includes natural or biological sciences, general chemistry, and statistics
- c. Earn at least 850 on the Graduate Record Examination (GRE) (combined verbal and quantitative) or a score of at least 33 or 385 on the Miller Analogies Test (MAT)

### **Conditional Admission**

Conditional admission may be granted under certain circumstances.

## Curriculum for M.S. in Environmental and Biological Sciences

### Required Core Courses (10 sh)

*Courses with separate lectures and labs must be taken together.*

EBS	6601	3	Environmental and Biological Ethics
EBS	6630	3	Pollution Science
EBS	L630	1	Pollution Science Lab
EBS	6691	3	Research Methodology and Experimental Design

### Environmental Science Concentration

**Select one option below:**

#### Non-Thesis Option: (26 Semester Hours)

*Required courses (9 sh)*

EBS	6603	3	Environmental Management
EBS	6664	3	Restoration Ecology
EBS	6665	3	Sustainable Development

*Adviser Approved Electives courses: (17 sh)*

OR

#### Thesis Option (20 Semester Hours minimum)

EBS	6695	6	Thesis Research
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*Required courses: (3 sh) Select one course:*

EBS	6603	3	Environmental Management
EBS	6664	3	Restoration Ecology
EBS	6665	3	Sustainable Development

*Adviser Approved Electives: (11 sh)*

### Biological Sciences Concentration

**Select one option below:**

#### Non-Thesis Option: (26 Semester Hours)

*Required courses: (7 sh)*

*Courses with separate lectures and labs must be taken together.*

EBS	5516	3	Microbial Ecology
EBS	L516	1	Microbial Ecology Lab
EBS	6661	3	Conservation Biology

*Required Elective Course(s): (3-4 sh)*

*Select one course:*

*Courses with separate lectures and labs must be taken together.*

EBS	5513	3	Limnology
EBS	L513	1	Limnology Lab
EBS	5521	3	Population Ecology
EBS	L521	1	Population Ecology Lab
EBS	5530	3	Applied Genetics
EBS	L530	1	Applied Genetics Lab
EBS	6620	4	Field Protistology
EBS	6621	3	Environmental Toxicology

*Adviser Approved Electives: (15 -16 sh)*

OR

#### Thesis Option (20 Semester Hours)

*Required Thesis Research: (6 sh)*

EBS	6695	6	Thesis Research
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*Required Elective courses (3-4 hours)*

*Select one course:*

*Courses with separate lectures and labs must be taken together.*

EBS	5516	3	Microbial Ecology
EBS	L516	1	Microbial Ecology Lab
EBS	6661	3	Conservation Biology
EBS	5513	3	Limnology
EBS	L513	1	Limnology Lab
EBS	5521	3	Population Ecology
EBS	L521	1	Population Ecology Lab
EBS	5530	3	Applied Genetics
EBS	L530	1	Applied Genetics Lab
EBS	6620	4	Field Protistology
EBS	6621	3	Environmental Toxicology

*Adviser Approved Elective Courses: (10-11 sh)*

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## MASTER OF SCIENCE IN INTERNATIONAL RELATIONS

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World politics have undergone a profound alteration over the past two decades. The collapse of the former Soviet Union, the evolution of the European Union, recent events in the Middle East and Central Asia, as well as the rise of non-state power centers such as al-Qa'ida, clearly demonstrate a significant paradigm shift in international affairs. The Cold War, which dominated global events for nearly five decades, is over. Yet, what replaces the institutions of that era is not altogether clear. What is clear is that the world community is increasingly interdependent, traditional identities and cultural norms are challenged, and new conflicts emerge.

The Master of Science in International Relations (MSIR) degree program is a 12-course, 36-credit-hour curriculum of study designed to provide students the foundation and knowledge needed for understanding the conduct of international relations. Students are encouraged to gain a wide-ranging appreciation for the political, historical, cultural, economic, and geographical factors that affect international relations. This appreciation is accomplished through an interdisciplinary course of instruction that draws upon a variety of resources. In addition, students develop methodological, analytical, and theoretical skills necessary for understanding and evaluating the impact of global and national issues on world events.

The program offers courses covering an array of topical areas

Graduates of the Master of Science in International Relations program include individuals with undergraduate degrees in the social sciences as well as in such areas as English, foreign language, engineering, chemistry, mathematics, psychology, education, and business administration.

### **Admission Requirements for the Master of Science in International Relations Degree**

#### **Unconditional Admission**

Students may be admitted unconditionally if they meet the following requirements:

1. Hold a master's or higher degree from a regionally accredited university. No test score is required. An official transcript showing completion of a master's or higher degree is required.

OR

2. Hold a baccalaureate degree from a regionally accredited college or university with a minimum overall undergraduate grade point average of 2.5 (4.0 scale) or a 3.0 grade point average on the last 30 semester hours. All hours attempted in the term in which the 30 semest

HIS	5533	3	Russia since 1861
HIS	5545	3	Modern Germany
HIS	5551	3	The Far East
HIS	5583	3	Latin American States
HIS	6614	3	Contemporary Japan
HIS	6615	3	Seminar in Latin American History
IR	5502	3	International Political Geography
IR	5524	3	Contemporary American Foreign Policy
IR	5533	3	Comparative Government
IR	5552	3	International Law
IR	5570	3	Politics of Southeast Asia
IR	6600	3	Selected Topics in International Relations
IR	6602	3	Geostrategic Studies
IR	6610	3	International Organizations
IR	6612	3	Comparative Public Policy
IR	6625, 6626, 6627	3	Specialized Study in International Relations
IR	6629, 6630	3	Seminar in International Relations
IR	6631	3	Intercultural Relations
IR	6633	3	Developed and Developing Nations
IR	6634	3	Tradition, Revolution, and Change
IR	6635	3	National Security Policy
IR	6640	3	Government and Politics of Developing Nations
IR	6641	3	Latin America in World Affairs
IR	6642	3	Russia and Eastern Europe
IR	6644	3	Middle East in World Affairs
IR	6645	3	Asia in World Affairs
IR	6647	3	Western Europe in World Affairs
IR	6648	3	Sub-Saharan Africa in World Affairs
IR	6653	3	Political Psychology
IR	6654	3	Media, Technology, and International Politics
IR	6655	3	International Conflict Management
IR	6656	3	International Power and Influence
IR	6660	3	Military Strategy and International Relations
IR	6665	3	Readings in International Relations
IR	6668	3	Thesis
IR	6669	3	Thesis
IR	6670	3	United Kingdom in World Affairs
IR	6672	3	Germany in World Affairs
IR	6675	3	Central America in World Affairs
IR	6676	3	Japan in World Affairs
IR	6677	3	China in World Affairs
IR	6681	3	Tribalism and Colonialism in Africa
IR	6685	3	Terrorism and Political Violence
IR	6686	3	Drug Politics in the Americas
IR	6687	3	Free Trade and Economic Integration in the Americas
IR	6688	3	Islamic Fundamentalism
PA	6610	3	Foundations of Public Administration
PA	6612	3	Comparative Public Administration

**National Security Affairs Concentration: 24 Semester Hours***Students must choose any four of the following courses: (12sh)*

HIS	5504	3	Military History of the United States
IR	5524	3	Contemporary American Foreign Policy
IR	5552	3	International Law
IR	6602	3	Geostrategic Studies
IR	6635	3	National Security Policy
IR	6660	3	Military Strategy and International Relations
IR	6685	3	Terrorism and Political Violence

*Approved Elective Courses: (12 sh)**Students **must** choose four courses from the remaining electives listed for the Global Studies Concentration.***Regional Affairs Concentration: 24 Semester Hours***Students must take each of the following courses: (9 sh)*

IR	5533	3	Comparative Government
IR	6610	3	International Organizations
IR	6631	3	Intercultural Relations

*Concentration Relevant Electives Courses: (9 sh)**Students must choose three courses from one of the following regional groups:***Latin America**

HIS	5583	3	Latin American States
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**The third component of the MSIR degree program is the successful completion of ONE of the following options:**

1. **Comprehensive Examination** – Students choosing this option must successfully complete a six-hour comprehensive examination, typically after all course work is completed or during the last term that they are registered for course work. Comprehensive examinations are given each term. Examination questions are developed by the MSIR faculty and approved by the Chair. Students must pass by successfully demonstrating the ability to integrate and synthesize information obtained from the course work. The comprehensive examination is graded by a minimum of two full-time and selected part-time faculty and submitted to the College of Arts and Sciences for review. Troy University faculty and staff administer comprehensive examinations.
2. **Thesis** — Students choosing the thesis option must register for IR 6668 (3 credit hours) and IR 6669 (3 credit hours) as their last two courses in the program. They must then successfully research, write, and defend a thesis. This process involves directed research in selected areas of international relations, based on the student's proposal, related to the student's needs, with the advice and approval of a thesis adviser and a faculty reader, and culminating in a substantive research paper of appropriate depth and scholarship. Students will receive no letter grade for the two thesis courses, only a Pass or a Fail. Students completing this option are not required to take the Comprehensive Examination.

*Note: Thesis option is not available to eCampus students.*

Program changes from the Comprehensive Examination Option to the Thesis Option are not permitted after attempting the Comprehensive Examination.

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## MASTER OF PUBLIC ADMINISTRATION

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### Mission Statement

The mission of the Troy University MPA program is to develop professional competency and leadership in individuals associated with public and nonprofit sectors by providing quality graduate professional education through a standardized curriculum and a network of campuses utilizing traditional, nontraditional, and emerging electronic formats.

The MPA degree is a 12-course, 36-credit-hour curriculum of study. Students with less than one year of work experience will complete an additional three-hour internship course for a total of 39 credit hours. Students may take courses as pre-service, in-service, full-time, and part-time students and through eCampus. The MPA degree program is offered at Global Campus sites throughout the United States, through online courses, and at the Troy campus.

### Admission Requirements

To apply for admission to the Master of Public Administration program, applicants must submit the following materials to the Admissions Office at least one full term/ semester before enrollment.

1. Completed Application for Admission to the Graduate School.
2. Official transcript(s) from all universities attended;
3. Official copy of GRE or MAT or GMAT scores;
4. A letter of recommendation that addresses the applicant's good potential for success in professional graduate studies and public service
5. A 500 word essay addressing the applicant's professional goals, readiness, and potential for completing the MPA program; and
6. A resume listing professional experience, certifications, and other preparation.

All applicants for the Troy University MPA program must submit their application for admission at least one full term/semester before enrollment. No MPA student is allowed to register for MPA courses without formal admission to the MPA program.

### Unconditional Admission

Applicants may be admitted unconditionally if they meet the following requirements:

1. Hold a masters or higher degree from a regionally accredited university. Applicants must submit the materials listed in Admission Requirements for Master of Public Administration with the exception of the official copy of GRE or MAT or GMAT scores.

OR

2. Hold a baccalaureate degree from a regionally accredited college with a minimum overall undergraduate grade point average of 2.5 (4.0 scale) or a 3.0 grade point average on the last 30 semester hours. All hours attempted in the term in which the 30 semester hours were reached are used to calculate the grade point average

AND

Have an acceptable score on the appropriate entrance exam: GRE 920 (verbal plus quantitative), MAT 400, or GMAT 490.

### Conditional Admission

Upon recommendation by the MPA Admissions Committee and approval by the designated MPA Program Director's representative, conditional admission may be granted under certain circumstances to applicants who cannot satisfy all unconditional admission requirements. See also conditional admission requirements in the General Regulations section of this *Catalog*.

### Transfer Credit

A maximum of 12 credit hours taken at another regionally accredited university with a grade of "B" or better can be applied to the degree. These courses must be comparable in catalog description to courses in the MPA program and must be approved by the Dean of Arts and Sciences or the Director of the MPA Program. Professional Military Education (PME) hours will not be accepted as transfer credits for Public Administration core courses. However, approved PME courses may be used as transfer credit for elective courses in the Public Administration Concentration. For more information, please consult with your adviser.

### Requirements for Admission to Candidacy

To be admitted to candidacy, students must have a 3.0 GPA on all work attempted. Unconditionally admitted graduate stu-

semester hours of requirements as outlined for the specific degree program. The Admission to Candidacy form must be completed within the first 18 semester hours of the program. If the Admission to Candidacy form is not completed by the conclusion of 18 semester hours, a hold will be placed on the student's registration until Admission to Candidacy process is completed.

To be admitted to candidacy, students must have a 3.0 GPA on all work attempted. If the student makes a "D" or "F" in a core course, the core course must be retaken. If the student makes a "D" or "F" in an elective course, the elective course may be re-

HSA	6682	3	Healthcare Planning and Management
HSA	6683	3	Healthcare Economics
HSA	6684	3	Managed Care: Origins, Organizations and Operations
PA	6665	3	Leadership in Public Administration

**Justice Administration**

CJ	6620	3	Current Trends in Criminal Law
CJ	6622	3	Seminar in the Administration of Justice
CJ	6624	3	Court Administration
CJ	6630	3	Juvenile Justice
CJ	6640	3	Seminar in Law Enforcement
CJ	6652	3	Seminar in Corrections
CJ	6671	3	Organization Theory

**National Security Affairs**

IR	5524	3	Contemporary American Foreign Policy
IR	5551	3	Survey of International Relations
IR	5552	3	International Law
IR	6602	3	Geostrategic Studies
IR	6610	3	International Organizations
IR	6620	3	International Political Economy
IR	6630	3	Seminar in International Relations
IR	6635	3	National Security Policy
IR	6660	3	Military Strategy and International Relations

**Nonprofit Management\***

PA	6630	3	Strategic Planning
PA	6631	3	Program Evaluation
PA	6666	3	Foundations of Nonprofit Organizations
PA	6667	3	Executive Leadership in Nonprofit Organizations
PA	6668	3	Grant Management for Public and Non-profit Organizations
PA	6669	3	Nonprofit Financial Management

\* *Students in Nonprofit Management must take PA 6631 as their Tier II course.*

**Public Human Resource Management**

HRM	6601	3	Legal Environment of Employment Decisions
HRM	6604	3	Labor Law
HRM	6619	3	Seminar in Human Resources Administration
HRM	6622	3	Workforce Planning and Staffing
HRM	6623	3	Training and Development of Human Resources
HRM	6632	3	Compensation and Benefits

**Public Management**

PA	6602	3	Quantitative Methods in Public Management
PA	6603	3	Economics for Public Management

PA	6620	3	Theory of Organizations
PA	6630	3	Strategic Planning
PA	6631	3	Program Evaluation
PA	6640	3	Intergovernmental Relations
PA	6644	3	Administrative Law
PA	6645	3	Managing Government Contracts
PA	6646	3	Organizational Behavior
PA	6665	3	Leadership in Public Administration
PA	6668	3	Grant Management for Public and Non-profit Organizations
PA	6674	3	Ethics in Public Administration
PA	6679	3	Computers and Government Management Information Systems
PA	66xx	3	Approved Adviser elective

**Concentration Courses**

PA 6625 Specialized Study in Public Administration or PA 6660 Readings in Public Administration with the prior approval by the MPA Director or faculty adviser, may be utilized in any concentration. In combination, these courses may not be used for more than six total credit hours. A course completed for one concentration cannot be used for another concentration.

Cross-listings applicable to the Master of Public Administration Degree Program only from other courses listed in this *Catalog*



















