

Information Systems, MSIS—Bridge (Miami)

The Master of Science in Information Systems—Bridge (<https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-insy-bridge/>) (MSIS-Bridge) addresses the needs of the digital revolution by preparing students with non-STEM, nontechnical bachelor's degrees to become information systems professionals. MSIS-Bridge students are the link between business users and technologists. As industries launch into a digitized future, professionals with a clear understanding of how technology can be used to address significant societal challenges are in demand. The MSIS-Bridge program closes the gaps between business management, software engineering, and information technology to help students solve complex real-world issues in business and society. It also upskills and reskills to help individuals or businesses identify organizational skills gaps and create a tactical training plan to fill them with new skills and knowledge. Through specially created and selected core courses, students gain the engineering foundation needed to excel in the classroom and in the IT sector.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INFO 5001	Application Modeling and Design	4
INFO 5002	Introduction to Python for Information Systems	4
INFO 5100 and INFO 5101	Application Engineering and Development and Lab for INFO 5100	4

Restricted Electives

Code	Title	Hours
Complete 28 semester hours from the following:		28
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6202	Concepts of Object-Oriented Design with C#	
CSYE 6205	Concepts of Object-Oriented Design with C++	
CSYE 6225	Network Structures and Cloud Computing	
CSYE 6230	Operating Systems	
CSYE 6305	Introduction to Quantum Computing with Applications	
CSYE 6700	Technical Writing and Professional Development	
CSYE 7105	High-Performance Parallel Machine Learning and AI	
CSYE 7125	Advanced Cloud Computing	
CSYE 7200	Big-Data System Engineering Using Scala	
CSYE 7215	Foundations of Parallel, Concurrent, and Multithreaded Programming	
CSYE 7220	Deployment and Operation of Software Applications	
CSYE 7230	Software Engineering	
CSYE 7235	Model-Driven Architecture	
CSYE 7270	Building Virtual Environments	
CSYE 7370	Deep Learning and Reinforcement Learning in Game Engineering	
CSYE 7374	Special Topics in Computer Systems Engineering	
CSYE 7470	Advanced Game Analytics	
CSYE 7550	Distributed Intelligent Agents in the Metaverse	
CSYE 7990	Thesis	
DAMG 6105	Data Science Engineering with Python	
DAMG 6210	Data Management and Database Design	
DAMG 7250	Big Data Architecture and Governance	
DAMG 7275	Advanced Database Management Systems	
DAMG 7325	Introduction to Information Technology Auditing	
DAMG 7350	Systems and Cybersecurity Fundamentals	
DAMG 7370	Designing Advanced Data Architectures for Business Intelligence	
DAMG 7374	Special Topics in Data Architecture and Management	
DAMG 7390	Advances in Hybrid Data Integration and Engineering	
INFO 6105	Data Science Engineering Methods and Tools	

INFO 6106	Neural Modeling Methods and Tools
INFO 6150	Web Design and User Experience Engineering
INFO 6205	Program Structure and Algorithms
INFO 6215	Business Analysis and Information Engineering
INFO 6245	Planning and Managing Information Systems Development
INFO 6250 and INFO 6251	Web Development Tools and Methods and Lab for INFO 6250
INFO 6255	Software Quality Control and Management
INFO 6660	Business Ethics and Intellectual Property for Engineers
INFO 7110	High-Performance Coding for Fintech
INFO 7205	Advanced Application Engineering Project
INFO 7225	Accounting and Budgetary Systems for Engineers
INFO 7245	Agile Software Development
INFO 7255	Advanced Big-Data Applications and Indexing Techniques
INFO 7260	Business Process Engineering
INFO 7285	Organizational Change and IT
INFO 7330	Information Systems for Healthcare Services Delivery
INFO 7374	Special Topics in Information Systems
INFO 7375	Special Topics in Artificial Intelligence Engineering and Applications
INFO 7385	Managerial Communications for Engineers
INFO 7405	Advances in Engineering Medical Information Systems
INFO 7990	Thesis
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330
TELE 5340	Telecommunications Public Policy and Business Management
TELE 5350	Telecom and Network Infrastructure
TELE 5360	Internet Protocols and Architecture
TELE 5600	Linux/UNIX Systems Management for Network Engineers
TELE 5976	Directed Study
TELE 6350	Unified Communications and Collaboration
TELE 6400	Software-Defined Networking
TELE 6420	Infrastructure Automation Design and Tools
TELE 6510	Fundamentals of the Internet of Things
TELE 6530	Connected Devices
TELE 7374	Special Topics in the Internet of Things
TELE 7945	Master's Project

Program Credit/GPA Requirements

40 total semester hours required

Minimum 3.000 GPA required