INFORMATION SCIENCE AND TECHNOLOGY

The bachelor of science in information science and technology (IST) is a STEM degree that will provide you with the necessary skills to connect management and technology in today’s workforce. Graduates in this field empower organizations by managing and supporting information systems to yield a more efficient and profitable enterprise.

There is great demand for IT professionals who have both strong technical knowledge and broad understanding of business. These individuals are needed to implement and manage technology that supports business processes, managerial decision-making and organizational communication. Although this is a computing-focused program, you’ll spend most of your day working with people, not machines. To this end, all IST majors are eligible to receive a minor in business without any additional coursework.

DEGREE CURRICULUM

Information Science and Technology Core
Your classes will include a core set of courses that will provide you with understanding of programming concepts, database management, data science, computer architecture, data networks, information systems design, technology management, and e-commerce.

Information Science and Technology Electives
To prepare yourself for a beginning career, you will take at least fifteen credits (five courses) of IST electives. You are encouraged to designate areas of concentration by pursuing one or more of over a dozen minors offered by our department in many popular, high-demand areas.

Common Core
You will join your business and management systems classmates in a common core set of classes. These classes reflect the theme of integration of business and technology, and represent information technology, management, quantitative, and communication skills.

Experiential Learning
You will be required to engage in an experiential learning activity. These activities are designed to require you to go beyond mastering basic skills and knowledge in the practical application of that material, and allow you to learn in environments that align with your aptitudes.

POPULAR PROFESSIONS
(Preparation for some of these careers requires specific courses)

- Artificial Intelligence and Machine Learning - Algorithm Design, Business Process Revitalization
- Business Analytics and Data Science - Data Modeling, Information Visualization, Business Operations Analysis
- Computer Infrastructure - Network Management, System Administration, Database Design and Management
- Cybersecurity and Information Assurance - Digital Forensics, Security Analysis, Business Continuity Planning
- Enterprise Resource Planning - ERP System Configuration, Business Intelligence, Supply Chain Management
- Human-Computer Interaction - Usability Evaluation, Interface Design
- Technological Innovation - Digital Transformation, Technological Innovation Management, Industry 4.0

AVERAGE STARTING SALARIES - CAREER OPPORTUNITIES AND EMPLOYER RELATION STATISTICS

$64,858  Average starting salary for undergraduates as of 2020

$72,125  Average starting salary for MS IST graduates as of 2019

$2,349  Average monthly salary for internships and co-ops as of 2020
B.S. Information Science and Technology
Degree Curriculum Effective Fall 2022

NOTE: Current students should consult their degree audit (found online at mydegree.mst.edu) to view their specific degree requirements. Degree requirements change over time. Students are normally held to the requirements in effect when they began their college studies. If you are a transfer student or have interrupted your studies, special rules may apply to your situation.

I. General Education (51 credit hours)

(1) __ Introduction to College Success, BUS 1810

Math and Science (20 credit hours)

(4) __ Survey of Calculus, MATH 1212
(3) __ Statistical Tools For Decision Making, STAT 3111
(3) __ General Psychology, PSYCH 1101
(3) __ Science Elective¹
(7) __ Mathematical or Science Elective¹,²

Human Institutions (15 credit hours)

(3) __ Fine Art, Social Science, or Humanities Elective³
(3) __ History Elective
(3) __ Principles of Microeconomics, ECON 1100³
(3) __ Principles of Macroeconomics, ECON 1200³
(3) __ American Government, POL SCI 1200

Communication Skills (15 credit hours)

(3) __ Principles of Speech, SP&M S 1185
(3) __ Exposition and Argumentation, ENGLISH 1120
(3) __ Intro to Technical Communication, ENGLISH/TCH COM 2560
(3) __ Intro to Web Design and Digital Media Studies, IS&T 4654⁴

II. Common Core Courses (27 credit hours)⁵

Information Technology (12 credit hours)

(3) __ Introduction to Management Information Systems, IS&T 1750
(3) __ Algorithms and Programming with Java, IS&T 1561
(3) __ Java and Data Structures, IS&T 1562
(3) __ Introduction to Enterprise Resource Planning, ERP 2110

Management (12 credit hours)

(3) __ Introduction to Management and Entrepreneurship, BUS 1110
(3) __ Financial Accounting, BUS 1210
(3) __ Corporate Finance I, FINANCE 2150
(3) __ Marketing, MKT 3110

Entrepreneurship and Innovation (3 credit hours)

(3) __ Business Models for Entrepreneurship and Innovation, BUS 5980

III. IST Core (18 credit hours)⁵

(3) __ Computing Internals and Operating Systems, IS&T 3131
(3) __ Data Networks and Information Security, IS&T 3333
(3) __ Systems Analysis, IS&T 3343
(3) __ Introduction to Data Science and Management, IS&T 3420
(3) __ Database Management, IS&T 3423
(3) __ Digital Commerce and IoT Analytics IS&T 4641

IV. IST Electives (15 credit hours)⁵

Select any five courses (at 3000-level or above) from IS&T or ERP
Any of BUS 5730, BUS 5910, COMP SCI 4700, COMP SCI 5601 will also count toward this requirement. Optional classes are listed below.

Artificial Intelligence, Business Analytics and Data Science

(3) __ Business Analytics and Data Science, IS&T 5420
(3) __ Introduction to Information Visualization, IS&T 5450
(3) __ Data Science and Machine Learning with Python, IS&T 5520
(3) __ Machine Learning Algorithms and Applications, IS&T 5535
(3) __ Machine Learning and AI for Business, BUS 5730

Cybersecurity and Information Assurance

(3) __ Human and Organizational Factors in Cybersecurity, IS&T 5780
(3) __ Privacy and Information Security, BUS 5910
(3) __ Security Operations and Program Management, COMP SCI 5601

Enterprise Resource Planning (ERP)

(3) __ ERP Systems Design and Implementation, ERP 5110
(3) __ ERP in Small and Mid Size Enterprises, ERP 5130
(3) __ Performance Dashboard and Scorecard, ERP 5210
(3) __ Introduction to Dashboard Prototyping, ERP 4220
(3) __ Application Development and Software Security, ERP 5240
(3) __ Supply Chain Management Systems in ERP, ERP 5310
(3) __ Use of Business Intelligence, ERP 5410
(3) __ Customer Relationship Management in ERP, ERP 4610
(3) __ Introduction to Data Warehouses, IS&T 4444

Human-Computer Interaction and User Experience

(3) __ Digital Media Development and Interactive Design, IS&T 5680
(3) __ Human-Computer Interaction and User Experience, IS&T 5885
(3) __ Prototyping Human-Computer Interactions, IS&T 5886
(3) __ Human-Computer Interaction Evaluation, IS&T 5987

Other IST Electives

(3) __ Information Systems Project Management, IS&T 4261
(3) __ Technological Innovation Management, IS&T 5251
(3) __ Fundamentals of Mobile Technology for Business, IS&T 5335
(3) __ Intellectual Property for Computer Scientists, COMP SCI 4700

V. Free Electives (9 credit hours)

(3) __ ______________________________
(3) __ ______________________________
(3) __ ______________________________

1 Science is any course in biological science, chemistry, geology, geological engineering or physics.
2 Mathematical Science is any course in mathematics, statistics, computer science or information science and technology that is not used for other degree requirements.
3 Fine Arts, Social Science, or Humanities is any course in art, economics, English, foreign language, history, literature, music, philosophy, political science, psychology, sociology or theater that is not used for other degree requirements.
4 ENGLISH 1160 may be substituted for ENGLISH/TECH COM 1600.
5 A grade of 'C' or better is required in these courses

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