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, data networks, information systems design, technology management, and e-commerce.

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.

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 of a dozen minors offered by our department in many popular, high-demand areas.

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** - Machine Learning Engineer, AI Research Scientist, AI Product Manager
- **Business Analytics and Data Science** - Business Intelligence Analyst, Data Analyst, Operations Research Analyst
- **Computer Infrastructure** - Network Administrator, Cloud Infrastructure Engineer, Database Administrator
- **Cybersecurity and Information Assurance** - Cybersecurity Analyst, Information Security Officer, Penetration Tester
- **Digital Commerce** - E-Commerce Manager, Digital Marketing Specialist, IoT Solutions Architect
- **Enterprise Resource Planning** - ERP Consultant, Business Intelligence Developer, Enterprise Architect
- **Software Systems** - Software Developer, Application Architect, Full Stack Developer, Business Application Manager
- **Technological Innovation** - Chief Innovation Officer, Digital Transformation Consultant, Innovation Program Manager

AVERAGE STARTING SALARIES - CAREER OPPORTUNITIES AND EMPLOYER RELATION STATISTICS

$77,655	$85,715	$3,584
Average starting salary for undergraduates as of 2024	Average starting salary for MS IST graduates as of 2023	Average monthly salary for internships and co-ops as of 2022

B.S. Information Science and Technology
Degree Curriculum Effective Fall 2025

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 (35 credit hours)

(1) __   Introduction to College Success, BUS 1810

Natural Systems (10 credit hours)
(3) __   General Psychology, PSYCH 1101[3]
(6) __   Science Elective[1,3] (Must be from two disciplines.)
(1) __   Science Lab[3]

Human Institutions (12 credit hours)
(3) __   Fine Art, or Humanities Elective[2]
(3) __   Principles of Microeconomics, ECON 1100[3]
(3) __   Principles of Macroeconomics, ECON 1200[3]
(3) __   American Government, POL SCI 1200[3]

Communication Skills (12 credit hours)
(3) __   Principles of Speech, SP&M S 1185[3]
(3) __   Exposition and Argumentation, ENGLISH 1120[3]
(3) __   Intro to Web Design and Digital Media Studies, IS&T 4654
(3) __   Technical Marketing Communication, ENGLISH/TCH COM 2560[3]

II. Common Core Courses (27 credit hours)

Information Technology (12 credit hours)
(3) __   Introduction to Management Information Systems, IS&T 1750
(3) __   Implementing Information Systems: User Perspective, IS&T 1551
(3) __   Implementing Information Systems: Data Perspecive, IS&T 1552
(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 (3 credit hours)
(3) __   Business Models for Entrepreneurship and Innovation, BUS 5980

III. IST Core (24 credit hours)

(3) __   Database Management, IS&T 3423
(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) __   Introduction to Data Warehouses, IS&T 4444
(3) __   Business Analytics and Data Science, IS&T 5420
(3) __   Data Science & Machine Learning with Python, IS&T 5520
(3) __   Fundamentals of Cybersecurity Analytics, IS&T 5725

IV. IST Electives (15 credit hours)[1]
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. Some optional classes are listed below.

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

Cybersecurity and Information Assurance
(3) __   Fundamentals of Cybersecurity Analytics, IS&T 5725
(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 Software Development, ERP 4120
(3)__   Intro to Enterprise Decision Dashboard Prototyping, ERP 4220
(3)__   Customer Relationship Management in ERP, ERP 4610
(3)__   ERP Systems Design and Implementation, ERP 5110
(3) __   ERP in Small and Mid Size Enterprises, ERP 5130
(3)__   Performance Dashboard, Scorecard, & Data Vis. ERP 5210
(3)__   Enterprise Application Dev. & Software Security, ERP 5240
(3)__   Supply Chain Management Systems in ERP, ERP 5310
(3)__   Use of Business Intelligence, ERP 5410

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

Other IST Electives
(3)__   Information Systems Project Management, IS&T 4261
(3)__   Technological Innovation Management, IS&T 5251
(3)__   Intellectual Property for Computer Scientists, COMP SCI 4700
(3)__   Foundations of Data Management, IS&T 5423

V. Quantitative Skills (8 credit hours)

(5) __   Calculus I-A, MATH 1210[3]
(3) __   Statistical Tools For Decision Making, STAT 3111
           OR Statistics for the Social Sciences, STAT 1115

VI. Free Electives (11 credit hours)

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120 Hours

A grade of "C" or better is required in the following courses for graduation: BUS 1110, BUS 1210, BUS 1810, BUS 5980, ECON 1100, ECON 1200, ERP 2110, FINANCE 2150, MKT 3110, IS&T 1551, IS&T 1551, IS&T 1750, IS&T 3333, IS&T 3343, IS&T 3420, IS&T 3423, IS&T 4444, IS&T 4654, IS&T 5420, IS&T 5520, IS&T 5725 and all IS&T electives (can include BUS 5730, BUS 5910, COMP SCI 4700, COMP SCI 5601 or any IS&T or ERP designated course at the 3000-level or above.

1 General education elective courses in two of the following areas: biology, chemistry, geology, or physics must fulfill the Missouri S&T general education requirements applicable to the students catalog year.
2 General education elective courses in two of the following areas: art, history, music, or theater must fulfill the Missouri S&T general education requirements applicable to the students catalog year.
3 General education discipline required course. These fulfill the Missouri S&T general education requirements applicable to the student's catalog year.