Information Systems
College of Science, Engineering & Technology
Department of Information Systems & Technology
273 Wissink Hall • 507-389-1412
Web site: www.cset.mnsu.edu/isys

Chair: Leon Tietz

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Wells

The Bachelor of Science in Information Systems program provides students with
a firm grasp of business concepts and information systems applications, and
prepares them to create innovative solutions for significant business problems.
Students gain the ability to integrate hardware, software, and management skills
to solve problems in a variety of business areas.

The program’s mission is to ensure that each graduate is exceptionally well-
qualified to undertake a successful information systems career in business,
industry, education, or government. In support of this mission, the program is
designed so that:

• Each student will gain a sound foundation in computing basics: analysis
design, programming, testing, software development, security, database,
and human-computer interaction.
• Each student will assimilate a solid base of business enterprise concepts,
including principles of accounting, finance, business law, management,
operations, and enterprise resource planning (ERP).
• Each student will learn the theory and practice of information technol-
ogy, and develop skills to apply this knowledge to analyze and solve
business problems.
• Each student will develop analytical, critical thinking, and interpersonal
skills applicable to real-world problems.
• Each student will develop effective oral and written communication
skills.
• Each student will appreciate the social and ethical issues in information
systems.

Admission to Major is granted by the department. Admission to the Major
is required before the student is permitted to take 300- and 400-level courses.
Requirements are:

• A minimum of 32 earned semester credits
• Completion of MATH 121 or MATH 180 or MATH 181 with a grade of "C"
or better
• Completion of ENG 101 with a grade of "C" or better
• Completion of ISYS 110 with a grade of "B" or better
• Completion of ISYS 210 and ISYS 215 with a grade of "C" or better in
each, and a combined GPA of 2.5 in these courses (or their equivalents).

POLICIES/INFORMATION

GPA Policy. The completion of any major or minor in the Department of Infor-
mation Systems & Technology requires both:

- a GPA of 2.5 or higher for all departmental courses (ISYS or IT),
or their substitutions, used to complete the major or minor, and
- a GPA of 2.5 or higher for all courses, or their substitutions, used to
complete the major or minor. This includes all departmental courses
(ISYS or IT), supporting courses, and General Education courses
required for the major or minor.

It is recommended that students who cannot maintain a GPA of 3.0 in required
100 and 200-level courses see their advisor for a program review.

Grade Policy. All coursework used to complete a departmental major or minor,
including required courses, required supporting courses, and required General
Education courses, must be taken for a letter grade except for courses offered
only as P/N.

No course completed with a grade of "D" can be used to complete a departmental
major or minor program, or to meet a departmental prerequisite.

Registration Hold Policy. The department will place a registration hold on any
student who earns a "D" or "F" in any of its courses. The department will also
place such a hold on any student who drops any of its courses after the first two
weeks of the semester. A student with a registration hold cannot register for
courses until the hold is released, which requires filling out an appeal form and
taking it to the student’s advisor for discussion. Appeal forms are available from
the departmental office. This hold policy does NOT apply to students who are
taking 100-level ISYS courses.

Dual Major Policy. Students can earn at most one undergraduate major from this
department.

Administrative Drop Policy. The department will automatically drop any
student enrolled in ISYS 110 who does not attend the first course meeting. If
you cannot attend the first meeting, submit a written request to ad-computer@mn-
su.edu BEFORE the first day of the course. For assistance with the process,
call the departmental office at 507-389-1412.

Incomplete Policy. The department gives incomplete grades for only two
conditions. The first condition is illness, which requires a doctor’s written re-
commendation. The second condition arises when a death in the student’s family
has caused the student to be away from the campus for an extended period. The
student must have a satisfactory grade ("C" or better) in the course at the time
of the onset of the condition.

Internship Policy. An internship is required for all ISYS majors.

Residency Policy. Students must earn at least 50 percent of the credits required
for a major in Information Systems at Minnesota State Mankato.

Prerequisite Policy. For all ISYS courses, an equivalent (cross-listed) IT course
from the Department of Information Systems & Technology is accepted as a
prerequisite in lieu of an ISYS course and vice versa.

Advising Policy. Every semester, before registering for courses, each student
majoring in Information Systems must meet with his/her advisor to obtain
permission for registration. This meeting ensures that all students are making
satisfactory progress toward their degrees.

Portfolio Policy. Each student majoring in Information Systems is required to
keep a portfolio of work done in all ISYS courses, and to make this portfolio avail-
able to ISYS faculty for review. Keeping a portfolio gives the student ownership
over his or her education and helps to personalize the educational experience.
The portfolio also provides a valuable showcase of work accomplished when
interviewing prospective employers or applying to graduate school.

INFORMATION SYSTEMS BS

General Education Required (29 credits)
CMST 100 Fundamentals of Communication (3)
CMST 212 Professional Communication & Interviewing (3)
ENG 101 Composition (4)
HUM 204 Diversity, Inclusion, & Social Justice (4)
ISYS 110 Foundations of Computing (4)
ISYS 202W Computers in Society (4)
MATH 180 Mathematics for Computer Science (4)
PHIL 224 Business Ethics (3)

Required for Major (Core, 68 credits)
ACCT 200 Financial Accounting (3)
ACCT 210 Managerial Accounting (3)
BLAW 371 Computer and Technology Law (3)
FINA 362 Business Finance (3)
ISYS 210 Fundamentals of Programming (4)
ISYS 215 Fundamentals of Information Systems (4)
ISYS 311 Business Application Programming (4)


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<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
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<tr>
<td>ISYS 340</td>
<td>Database Application Systems (4)</td>
<td>Introduction to database systems, database models, database management systems, database design via data modeling and normalization, conversion of logical model into physical schema, SQL application development using a relational database in a team environment. Pre: ISYS 210 or IT 210 Fall, Spring</td>
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<tr>
<td>ISYS 350</td>
<td>Information Security (4)</td>
<td>Information system security including access control systems and methodology, business continuity and disaster recovery planning, legal issues in security, ethics, computer operations security, physical security. Security architecture and models using current standards and models. Pre: IT 210 or ISYS 210 Fall, Spring</td>
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<tr>
<td>ISYS 360</td>
<td>Systems Analysis and Design (4)</td>
<td>This course introduces analysis and design of software, using both structured and object-oriented approaches. Students use upper and lower CASE tools in the analysis, design, and implementation of a team-based project. Pre: ISYS 215 or IT 214 Fall, Spring</td>
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<td>ISYS 441</td>
<td>Database Modeling for Applications (4)</td>
<td>Data modeling techniques such as E/R, UML, ORM, and LDS. Requirements analysis, conceptual data modeling, and transformation of models to SQL. Higher normal forms, advanced SQL, object-relational mapping, complex data models in business applications. Pre: ISYS 340 or IT 340 Fall</td>
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<td>ISYS 450</td>
<td>Information Warfare (4)</td>
<td>Information warfare principles and technologies, including information warfare concepts: protocols, authentication, and encryption; network attack techniques, methodologies, and tools; network defense; malware: trojans, worms, viruses, and malicious code; electronic crimes and digital evidence. Pre: ISYS 350 or IT 350 Fall</td>
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<td>ISYS 480</td>
<td>Software Quality Assurance and Testing (4)</td>
<td>Developing quality software, assessing and maintaining software quality. Software testing at unit, module, subsystem, and system levels. Automatic and manual generation of test data, static and dynamic analysis, functional testing, inspections, and reliability assessment. Pre: ISYS 380 or IT 380 Spring</td>
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<td>ISYS 482</td>
<td>Human Computer Interaction (4)</td>
<td>Human factors issues in the development of software and design of user interfaces for interactive systems. Theories, models, usability studies, and controlled experimentation are used to evaluate software development with user-interface-development environments. Pre: ISYS 380 or CS 110 or IT 380 Fall</td>
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<tr>
<td>ISYS 484</td>
<td>Software Engineering (4)</td>
<td>Principles, methods, and techniques for construction of software systems. Software architecture, design, and implementation. Project management, planning, quality assurance, and product maintenance. Application of software engineering techniques to homework assignments and team projects. Pre: ISYS 480 or IT 480 Fall, Spring</td>
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<td>ISYS 497</td>
<td>Internship (1-12)</td>
<td>Participants gain experience in real-world business environment under direction of full-time staff member. (At most 6 hours toward a major in this department.) Pre: Permanent admission to the ISYS major, ISYS 340 or IT 340, and ISYS 380 or IT 380 Variable</td>
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