

# COMPUTER APPLICATION DEVELOPMENT BAS

## Computer Application Development

College of Science, Engineering & Technology  
Department of Computer Information Science  
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The CApp major enables students to become developers who can deploy appropriate technology to solve problems in businesses and organizations. Individuals with strong backgrounds of technical and analytical skills, effective communication abilities, and project development knowledge are in demand as the information needs of the world continue to grow. CApp majors can go on to pursue careers as web developers, database application developers, enterprise application developers, and general application programmers.

**Academic Map/Degree Plan at [www.mnsu.edu/programs/#All](http://www.mnsu.edu/programs/#All)**

### POLICIES/INFORMATION

**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 with a grade of "C" or better
- Completion of ENG 101 with a grade of "C" or better
- Completion of IT 210 with a grade of 3.0 or better and IT 214 with a grade of 2.0 or better (or in their equivalents).

**GPA Policy.** The completion of any major or minor in the Department of Computer Information Science requires both:

- a GPA of 2.5 or higher for all departmental courses (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, 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 IT courses.

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

**Incomplete Policy.** The department gives incomplete grades for only two conditions. The first condition is illness, which requires a doctor's written recommendation. 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.** The Department of Computer Information Science continuously strives for improvements in the academic program. Coursework, coupled with extensive laboratory experience, play an important part in the student's educational program. However, application of the concepts discussed in class to on-the-job situations is equally important. As a result, the department requires an internship or a capstone experience for all IT majors.

**Excluded Courses Policy.** IT 201, IT 296 do not count toward a major or minor in the department.

**Residency Policy.** Students must earn at least 50 percent of the credits required for a departmental major or minor at Minnesota State Mankato.

### Required General Education

All of these courses (or comparable) are available at the 2-year schools. Some are required in various 2-year programs. (Corresponding MSU course in parentheses.) Students may have already completed these courses before entering MSU, thus the remaining credits to complete the 60 required credits must be completed with open electives.

CMST	102	Public Speaking (3)
ENG	101	Composition (4)
ENG	272W	Business Communication (4)
MATH	112	College Algebra (4)
STAT	154	Elementary Statistics (3)

### Major Common Core

22 credits total consisting of 4 classes (16 credits) specifically designed for tight integration with industry partners, plus 6 credits of internship (1 or 2 credits per semester; pass/no credit portfolio based on employer recommendation).

CMST	333	Advanced Public Communication (4)
IT	340	Introduction to Database Systems (4)
IT	350	Information Security (4)
IT	380	Systems Analysis and Design (4)
IT	497	Internship (1-12)

### Major Restricted Electives

5 classes (20 credits) of electives selected from the following. Additional special topics classes may also be available.

IT	310	Data Structures & Algorithms (4)
IT	311	Business Application Programming (4)
IT	320	Machine Structures and Operating Systems (4)
IT	360	Introduction to Networking (4)
IT	414	Advanced Object-Oriented Programming with Design Patterns (4)
IT	440	Database Management Systems II (4)
IT	450	Information Warfare (4)
IT	460	Network and Security Protocols (4)
IT	462	Network, Security, Administration and Programming (4)
IT	465	Mobile Device Application Programming (4)
IT	480	Software Quality Assurance and Testing (4)
IT	482	Human Computer Interaction (4)
IT	483	Web Applications and User Interface Design (4)
IT	484	Software Engineering (4)
IT	499	Individual Study (1-4)