

Computer Science Associate in Science Degree 2008-2009

| | |
|--------------------------------|---------------|
| Program Core Requirements | 16-21 |
| Additional Career Requirements | 11-16 |
| General Education/MnTC | 30 |
| Wellness | $\frac{2}{2}$ |
| Total Credits | 64 |

Program Information: This associate degree program targets a broad range of students interested in careers in Information Technology. The program offers two tracks for students based on readiness, transfer and/or employment plans. It is intended that the degree articulate to the Computer Science program at Metropolitan State University and the Bachelor of Applied Science degree at Minnesota State University, Mankato. The program shares curriculum with related courses from Business and Computer Networking to provide graduates with a diverse skill set.

Program Goals: By completing this program, students will achieve the following learning goals: 1) write and implement algorithms using a programming language of their choice to solve any problem; 2) write object-oriented programs; 3) implement data structures in writing complex programs; 4) be fluent in two or more programming languages; 5) understand ethical and moral issues as related to Computer Science applications; 6) understand the computer's architecture as it relates to Computer Science, and , 7) have a strong base to become a life-long learner in the field of Computer Science.

Program Admission: To apply for admission to one of the Computer Science Programs, submit the *Application for Computer Science Programs* to the Records and Registration Office. Applications are available in Counseling and Advising Services or the Records and Registration Offices on either campus. Admission to the program is not required to take CSCI 1101 or CSCI 1115. For additional information about our computer science programs, visit our Web site at <http://www.AnokaRamsey.edu>.

Developmental Courses: Some students may need preparatory courses in the areas of English, mathematics, or typing/keyboarding. Courses numbered below 1000 will not apply toward the AS degree.

| Program Core Requirements | 16-21 credits | General Education/MnTC Requirements | 30 credits | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--|
| CSCI 1101♦ Introduction to Computer Science and Problem Solving | 3 | Complete at least 30 credits in courses from the Minnesota Transfer Curriculum, <u>including all courses listed</u> . You must complete at least one course in six of the ten emphasis areas. You may select courses that meet more than one emphasis area. Students intending to transfer to a 4-year institution should complete all ten emphasis areas. 1. Communication ENGL 1121♦ College Writing and Critical Reading 4 *SPCH 1110 Introduction to Speech Communication or SPCH 2220 Interpersonal Communications 3 2. Critical Thinking 3. Natural Science 4. Mathematical/Logical Reasoning MATH 1200♦ College Algebra 3 5. History/Social/Behavioral Sciences 6. Humanities/Fine Arts 7. Human Diversity 8. Global Perspective 9. Ethical/Civic Responsibility 10. People and the Environment | | |
| CSCI 1102/1103♦ Introduction to Programming I & II (6 cr) OR CSCI 1106♦ Fundamentals of Computer Science I (4 cr) | 4-6 | | | |
| CSCI 1107♦ Fundamentals of Computer Science II | 4 | | | |
| CSCI 2253♦ Assembly Language Programming | 4 | | | |
| MATH 2100♦ Discrete Mathematics | 4 | | | |
| Additional Career Requirements | 11-16 credits | | | |
| Select courses from the following to fulfill the 32-credit requirement: | | | | |
| CSCI 1115♦ Visual Basic Programming | 3 | | | |
| CSCI 1125♦ Java Programming | 3 | | | |
| CSCI 2251♦ Advanced Programming | 3 | | | |
| BUS 1119♦ Introduction to Relational Databases | 3 | | | |
| BUS 1180♦ Developing Web Pages | 3 | | | |
| CNET 1101 PC Troubleshooting, Maintenance and Repair | 2 | | | |
| CNET 2101 Data Telecommunications & Computer Networks | 3 | | | |
| ENGR 2218♦ Digital Logic | 4 | | | |
| MATH 1201♦ College Algebra II and Trigonometry | 4 | | | |
| MATH 1210♦ Pre-Calculus | 5 | | | |
| MATH 1400♦ Calculus I | 5 | | | |
| MATH 1401♦ Calculus II | 5 | | | |
| Notes: (1) A minimum cumulative grade point average (GPA) of 2.0 in courses numbered 1000 or above at ARCC. (2) A minimum grade of C must be earned in all Program Core requirements. (3) All Program Core requirements must be completed at ARCC. (4) A minimum of 64 semester credits numbered 1000 or above with a minimum of 20 semester credits taken at ARCC (reduced to 12 if 8 credits are transferred from another MnSCU institution or the U of M) is required for graduation. (5) Courses within the 32-credit program requirements must be completed within 3 years. Students may petition to extend the window beyond the 3 years. | | | | |
| | | Wellness | 2 credits | |
| | | Select any HPER course(s) totaling at least 2 credits. | | |
| | | *Students may take SPCH 2215 Public Speaking in place of SPCH 1110 if they intend to transfer to MN State University-Mankato. | | |
| | | ♦ Course has a prerequisite. | | |
| | | Transfer Note: Students intending to transfer should choose the following electives: MATH 1201 and MATH 1400. You should also fulfill the Wellness requirement with one of the following classes: HPER 1102, 1110 or 1112. This will ensure students complete the MnTC and thereby fulfill the general education requirements at the receiving institution. | | |
| Program Sequence: The sequence that follows is suggested for full-time students. Part-time students will need more time to complete this program; many courses are offered in the evening. Summer session courses may be required for students taking track 1. | | | | |
| First Year | | Second Year | | |
| Fall Semester | Spring Semester | Fall Semester | Spring Semester | |
| CSCI 1101, 1102 or 1106 | 3-4 CSCI 1102, 1103, or 1107 | CSCI 2253 | 4 CSCI 1107 (track 1) | |
| MATH 1200 | 4 SPCH 1110 or 2220 | MATH 2100 | 4 Wellness Elective | |
| ENGL 1121 | 4 General Ed or Electives | General Ed or Electives | <u>8</u> General Ed or Electives | |
| General Ed or Electives | <u>4-5</u> | TOTAL | 16 TOTAL | |
| TOTAL | 16 | | 16 | |

You are encouraged to contact a counselor or an advisor, Cambridge Campus 763.433.1840 or Coon Rapids Campus 763.433.1230, for course planning assistance and information about transfer credit evaluation.

NOTE: The requirements of this program are subject to change without notice.