

2+2 COMPUTER INFORMATION SYSTEMS
Rochester Community and Technical College (RCTC) &
Winona State University (WSU)

The first two years provides the Associate in Science (A.S.) degree in Liberal Arts at RCTC; the second two years provides the Bachelor in Science (B.S.) in Applied Computer Science with Computer Information Systems Track at WSU.

I. GENERAL EDUCATION REQUIREMENTS.....40 Credits

Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum, (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine which courses satisfy the areas listed below.

Goal 1: WRITTEN AND ORAL COMMUNICATION (CM).....11 CR

ENGL 1117*, 1118* Reading & Writing Critically I & II, 8 cr
SPCH 1114, Fundamentals of Speech **OR** SPCH 1130, Interpersonal Communications, 3 cr

GOAL 2: CRITICAL THINKING (CT) MAY BE MET BY ANY COURSE IN MNTC 1-10 GOALS

Goal 3: NATURAL SCIENCES (NS).....6 CR

Choose two courses with labs from two different areas: Biology, Chemistry, Earth Science or Physics.

Goal 4: MATHEMATICS/LOGICAL REASONING (MA)..... 7 CR

MATH 1119 Applied Calculus for Business & Economics, 3 cr
MATH 2208 Fundamentals of Statistics, 4 cr

Goal 5: HISTORY AND the SOCIAL AND BEHAVIORAL SCIENCES (SS).....7 CR

ECON 2214 Principles of Microeconomics, 4 cr **OR**
ECON 2215 Principles of Macroeconomics, 4 cr
Choose a second course from: Anthropology*, Geography*, History*, JOUR 1110, Political Science, Psychology*, Sociology*

Goal 6: HUMANITIES – the ARTS, LITERATURE, and PHILOSOPHY (HA).....9 CR

Choose from the following disciplines with a minimum of 2 credits from three areas: Art, Dance, English Literature, Foreign Culture, Humanities*, JOUR 1106, Music, Philosophy*, Speech/Theatre.

Honors equivalent available.

II. HEALTH AND HUMAN PERFORMANCE.....2 Credits

Any combination of Health courses (numbered 1102, 1110, 1111, 1114, 1132, 1135, and 2126) and/or Physical Education Courses (numbered 1100-1199).
1 credit may be from Varsity Athletics, (PHED 1210 – 1236; 2210 – 2236)

III. COMPUTER CORE REQUIREMENTS:.....19 Credits

COMP 1150 Computer Science Concepts, 3 cr
COMP 2243 Programming & Problem Solving, 4 cr
COMP 2247 Algorithms and Data Structure, 4 cr

NOTE: Students are encouraged to begin taking WSU Computer Science courses concurrently after completing the above core requirements.

ACCT 2217 Financial Accounting, 4 cr
ACCT 2218 Managerial Accounting, 4 cr

IV. PROFESSIONAL REQUIREMENTS:.....4 Credits

MATH 2218 Discrete Mathematics, 4 cr

TOTAL CREDITS.....65 Credits

For more information contact:

http://www.rctc.edu/counseling_career_center/pdf/AdvisorList-2008-09.pdf

NOTE: The award of this A.S. degree waives WSU University Studies requirements except for the Flag requirements (See WSU Catalog).

MAJOR REQUIREMENTS AT WS:

COMPUTER SCIENCE CORE.....20 Credits

	CS 310 Social Implications of Computing	3 Cr
M	CS 341 Data Structures and Software Design	4 Cr
	CS 375 Computer Systems	4 Cr
W	CS 385 Applied Database Management Systems	3 Cr
W	CS 410 Software Engineering	3 Cr
O	CS 471 Object Oriented Design and Development	3 Cr

COMPUTER INFORMATION SYSTEMS TRACK REQUIREMENTS.....12 Credits

Choose two of the following three courses:

	CS 344 Introduction to Web Programming	3 Cr
	CS 472 Reusable Software Architectures	3 Cr
	CS 482 Internet/Web Architecture and Development	3 Cr
	CS 485 Database System Design	3 Cr
	MIS 362 Management Information Systems	3 Cr

COMPUTER INFORMATION SYSTEMS TRACK ELECTIVES.....15 Credits

Choose **9 credits** from the following list of courses.

	BUSA 291 Legal Environment of Business	3 Cr (WSU) or BUS 2210 (RCTC)
	ECON 201+ Principles of Microeconomics	3 Cr (WSU) or ECON 2214 (RCTC)
	ECON 202+ Principles of Macroeconomics	3 Cr (WSU) or ECON 2215 (RCTC)
	FIN 360 Corporate Finance	3 Cr
	MKTG 300 Principles of Marketing	3 Cr (WSU) or BUS 2201 (RCTC)
	OM 334 Operations Management	3 Cr
	MGMT 315 Principles of Management	3 Cr
	MGMT 325 Organizational Dynamics	3 Cr

+Note: If the Economics course is counted as the University Studies requirement, it will not be counted as part of the major.

Choose **6 credits** from the following list of courses. At least 3 credits must be at the 400-level.

	CS 313 Networking and Telecommunications	3 Cr
OR	CS 368 Introduction to Bioinformatics	3 Cr
	CS 369 Spatial Information Processing	3 Cr
	CS 405 Operating Systems	3 Cr
O	CS 411 Software Testing	3 Cr
	CS 413 Advanced Networking & Telecommunications	3 Cr
	CS 415 Principles of Programming Languages	3 Cr
	CS 420 Computer Architecture	3 Cr
	CS 425 Numerical Analysis	4 Cr
	CS 430 Computer Graphics	3 Cr
	CS 433 Digital Image Processing	3 Cr
	CS 435 Theory of Computation	3 Cr
	CS 440 Theory of Algorithms	3 Cr

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	CS 444 Human Computer Interaction	3 Cr
	CS 445 Artificial Intelligence	3 Cr
	CS 450 Compilers	3 Cr
	CS 465 Topics: Computing Theory	1-3 Cr
	CS 466 Topics: General Computing Applications	1-3 Cr
	CS 476 Distributed System: Concept and Design	3 Cr
	CS 491* Practicum in Computer Science (Only 3 cr count in major)	6 Cr
W	CS 495 Computer Science Research Seminar	3 Cr
	PHYS 333 Microprocessor Electronics	4 Cr

NOTE: **W** and **O** = Flag Courses (See WSU Catalog)

OPEN ELECTIVES.....17 Credits

TOTAL CREDITS.....64 Credits

REQUIRED FOR A BACHELOR OF SCIENCE (BS) COMPUTER INFORMATION SYSTEMS.....128 Credits

Implemented: Fall 2008
 Revised: 10/08/08
 Reviewed: 03/2009

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