

2+2 COMPUTER SCIENCE

Rochester Community and Technical College (RCTC) & Winona State University (WSU)

The first two years provides the Associate in Science (A.S.) degree in Computer Science at RCTC; the second two years provides the Bachelor in Science (BS) degree in Computer Science at WSU.

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

Courses must be selected from those approved to satisfy the competencies of Minnesota Transfer Curriculum (MNTC) Goals 1-10. Consult the RCTC catalog listings to determine the specific courses that apply to the areas 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, 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)..... 8 CR

MATH 1115, College Alegbra, 3 cr
MATH 1127 Calculus I, 5 cr

Goal 5: HISTORY AND the SOCIAL AND BEHAVIORAL SCIENCES (SS).....6 CR

Choose from two different areas: Anthropology*, Economics*, Geography*, History*, JOUR 1110, Political Science, Psychology*, Sociology*

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

Choose from three different 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, 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:.....11 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 transferring to WSU are encouraged to begin taking WSU Computer Science courses concurrently after completing these core requirements.

IV. PROFESSIONAL REQUIREMENTS:.....9 Credits

MATH 1128 Calculus II, 5 cr
MATH 2218 Discrete Mathematics, 4 cr

OPEN ELECTIVES.....2 Credits

TOTAL CREDITS.....64 Credits

For more information contact:

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

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

MAJOR REQUIREMENTS AT WSU:

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 SCIENCE OPTION REQUIREMENTS.....11 Credits

	CS 405 Operating Systems	3 Cr
	CS 415 Principles of Programming Languages	3 Cr
	CS 435 Theory of Computation	3 Cr
	PHYS 332 Computer Organization	2 Cr

COMPUTER SCIENCE OPTION ELECTIVES.....18 Credits

Choose 18 credits from the following list of courses:

	CS 313 Networking and Telecommunications	3 Cr
	CS 344 Introduction to Web Programming	3 Cr
	CS 368 Introduction to Bioinformatics	3 Cr OR
	CS 369 Spatial Information Processing	3 Cr
O	CS 411 Software Testing	3 Cr
	CS 413 Advanced Networking & Telecommunications	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 440 Theory of Algorithms	3 Cr
	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 472 Reusable Software Architectures	3 Cr
	CS 476 Distributed System: Concept and Design	3 Cr
	CS 482 Internet/Web Architecture and Development	3 Cr
	CS 485 Database Systems Design	3 Cr
	CS 491* Practicum in Computer Science (Note: Only 3 cr will count in major)	6 Cr
W	CS 495 Computer Science Research Seminar	3 Cr
	PHYS 333 Microprocessor Electronics	4 Cr

Note: W, O and M = Flag Courses (See WSU Catalog).

OPEN ELECTIVES.....15 Credits

TOTAL CREDITS.....64 Credits

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

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

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