

# **MINOR DEGREE IN COMPUTER SCIENCE**

## **ROWAN UNIVERSITY**

**Fall 2007 and later**

Computer Science deals with data structures, algorithms, problem-solving techniques, programming languages, software engineering and the architecture of modern digital computer systems. The rapid rise in computer usage has led to a corresponding increase in the need for people to work in computer-related positions. The Minor in Computer Science will help students prepare to make effective use of computers in their careers. It is expected to be particularly attractive to students from engineering, business administration, education, the social sciences and the life and physical sciences.

### **REQUIRED COURSES**

CS 04.103	Computer Science and Programming
CS 04.112	Java for Object Oriented Programmers [CS 04.103]
MATH 03.160	Discrete Structures [MATH.03 122]
CS 06.205	Computer Organization [(CS 04.113 and MATH 03.160 or CS 04.103 and MATH 03.160)]
CS 04.114	Object Oriented Programming and Data Abstraction [CS 04.113 or CS 04.103 and CS 04.112]
CS 04.222	Data Structures & Algorithms [CS 04.114 and MATH 03.160 or CS 04.114 and CS 04.112 Minimum Grade of A-and CS 04.103 Minimum Grade of A-]

### **ELECTIVE COURSES (TWO COURSES FROM THE FOLLOWING)**

CS 06.412	Advanced Computer Architecture [CS 06.310]
CS 07.450	Artificial Intelligence [MATH 03.160 and CS 04.222 and CS 07.210]
CS 07.350	Computer Cryptography [CS 07.210]
CS 06.410	Data Communications and Networking [CS 07.340 and STAT 02.360]
CS 07.340	Design and Analysis of Algorithms [CS 04.222 and CS 07.210]
CS 07.210	Foundations of Computer Science [MATH 01.122 and MATH 03.160 and CS 04.222 or MATH 01.130 and MATH 03.160 and CS 04.222]
CS 07.380	Introduction to Computer Animation [MATH 01.210 or MATH 01.236 and PHY 02.200]
CS 07.360	Introduction to Computer Graphics [CS 04.315 and MATH 01.210]
CS 07.370	Introduction to Information Visualization [MATH 01.210 or MATH 01.236]
MATH 01.332	Numerical Analysis [MATH 01.210 and MATH 01.231]
CS 04.390	Operating Systems [CS 04.222 and CS 06.205]
CS 04.380	Oriented Design [CS 07.340]
CS 06.310	Principles of Digital Computers [Corequisites: CS 06.311 Prerequisite: CS 06.205]
CS 04.315	Programming Languages [CS 04.222 and CS 06.205]
CS 07.321	Software Engineering I [CS 04.222 and CMS 06.202 and STAT 02.360 or ECE 09.242 and CMS 06.202 and STAT 02.360]
CS 07.322	Software Engineering II [CS 07.321]
CS 04.392	System Programming and Operating System Internals [CS 04.390 and CS 01.205]
CS 07.422	Theory of Computing [CS 04.222 and MATH 01.131 and CS 07.210]

**NOTE:** A minimum grade point average of 2.0 is required in the courses completed. Also, Introduction to Object Oriented Programming (CS 04.113) may be substituted for the two courses Computer Science and Programming (CS 04.103) and Java for Object Oriented Programmers (CS 04.112)