



Programmers write the detailed sets of instructions computers understand and act on. Emphasis is placed on computer information systems, programming language, concepts and designs, logic and theory. Job opportunities may include applications programmer, computer operator, information office systems manager, operations scheduler, systems analyst or programmer.

Minimum credits:	65
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

**GENERAL EDUCATION REQUIREMENTS — (18 credits)**

**ENGLISH — (3 credits)**

ENG 131 Writing Experience	3
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**MATHEMATICS — (4 credits)**

MTH 131 Intermediate Algebra	4
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**SCIENCE — (4 credits)**

**Choose one of the following:**

BIO 131 General Biology	4
BIO 132 Human Biology	4
CEM 131 Fundamentals of Chemistry	4
CEM 141 General Chemistry I	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

**SOCIAL SCIENCE — (3 credits)**

ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3

**HUMANITIES — (3 credits)**

**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in a Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3

ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

**HEALTH/PHYSICAL FITNESS — (1 credit)**

**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2

**RELATED REQUIREMENTS — (16 credits)**

ACC 216 Financial Accounting Concepts	4
BUA 100 Contemporary Business	3
BUA 120 Human Relations in Business	3
CIS 101 Introduction to Computer Systems	3
ENG 232 Technical & Business Writing	3

**COMPUTER PROGRAMMING SPECIALIST CORE  
REQUIREMENTS — (32 credits)**

CIS 012 Microsoft® Windows® Workshop	1
CIS 013 Operating Systems: UNIX	1
CIS 016 Microsoft® DOS® Workshop	1
CIS 122 Microsoft® Access® Comprehensive	3
ICIS 143 HTML	2
CIS 158 Programming Logic	3
CIS 160 Programming in Visual Basic.NET	3
CIS 165 JAVA Programming	3
CIS 170 Programming in C++	3
CIS 174 PC Repair/A+ Hardware Component or CIS 177 Network + Networking Fundamental Component	3
CIS 244 Web Programming	3
CIS 260 Advanced Visual Basic.NET	3
CIS 273 System Concepts and Design	3