



# Cerritos College

## COMPUTER AND INFORMATION SCIENCES PROGRAMMER

### CERTIFICATE OF ACHIEVEMENT

#### Program of Study

DIVISION/DEPARTMENT REQUIREMENTS		UNITS
CIS 52*	Data Processing Mathematics	3
CIS 101	Introduction to Computer Information Systems	3
or CIS 102	Introduction to Microcomputer Hardware and Applications Software	(3.5)
CIS 103	Computer Programming Logic	3.5
CIS 186	Visual Basic.NET Programming	3.5
or CIS 180	Programming in C/C++	(3.5)
or CIS 182	Java Programming	(3.5)
CIS 207	Database Design and SQL	3.5
or CIS 208A	Oracle SQL and PL/SQL Programming	(3.5)
or CIS 208B	Oracle Database Applications	(3.5)
CIS 221	Advanced Visual Basic	3
or CIS 221A	Object-Oriented Programming in VB.NET	(3)
or CIS 280	Object-Oriented Programming in C++	(3)
or CIS 282	Advanced Java Programming	(3.5)
CIS 292	Data Structures	3.5
BCOM 147**	Business Communications	3

#### Choose 12 units from the following courses:

CIS 80	Programming in Access	3
CIS 82	Visual Basic Scripting	1.5
CIS 121	Introduction to Internet for Information Systems/Information Technology	1.5
CIS 125	JavaScript Programming	1.5
CIS 140	Query/400	1
CIS 141	AS/400 Operations	3
CIS 160	Web Page Development	3.5
CIS 175	RPG Programming	3
CIS 176	COBOL Programming	(3)
CIS 186	Visual Basic.NET Programming	3.5
CIS 180	Programming in C/C++	3
CIS 182	Java Programming	3.5
CIS 201	Systems Analysis and Design	3
CIS 205	Programming in HTML for the World Wide Web	1.5
CIS 206	XML Scripting	3.5
CIS 207	Database Design and SQL	3.5
CIS 208A	Oracle SQL and PL/SQL Programming	.5
CIS 208B	Oracle Database Applications	3.5
CIS 212	Windows 2000 Professional and Server	3
CIS 214	Unix	3
CIS 215A	Solaris Fundamentals	3.5
CIS 221	Advanced Visual Basic	3
CIS 221A	Object-Oriented Programming in VB.NET	3

# PROGRAMMER

CIS 221B	Database Programming in VB.NET	3
CIS 222	Advanced RPG Programming	3.5
CIS 223	VisuaAge RPG	3
CIS 224	Advanced COBOL Programming	3
CIS 271/272/ 273/274	CIS Occupational Work Experience	1/2/3/4
CIS 280	Object-Oriented Programming in C++	3
CIS 281	Windows Programming with Visual C#.NET	3
CIS 282	Advanced Java Programming	3.5
CIS 283A	Java Server Pages (JSP) Programming	3.5
CIS 284	CGI and DANCRL Programming	3.5
CIS 285	Active Server Pages Programming	3.5
CIS 285A	Active Server Pages.NET Programming	3.5
TOTAL CERTIFICATE REQUIREMENTS:		38/39

*\*Meets AA Degree General Education – “Communication and Analytical Thinking” requirement. MATH 60 may be substituted.*

*\*\*Meets AA Degree General Education – “English Composition” requirement.*

NOTE: CIS 52, 101, 102, and 103 meet AA Degree General Education - “Communication and Analytic Thinking” requirement and the “AA Math Proficiency” requirement.

### **ASSOCIATE IN ARTS DEGREE REQUIREMENTS:**

Meet the requirements for a Certificate of Achievement in Computer and Information Sciences Programmer and complete general education requirements and electives to achieve a minimum of 60 units.

See Cerritos College Graduation Requirements.

NOTE: Although many of these courses are transferable, this Certificate/AA Degree is nontransferable.

Please see counselors or the respective department for additional alternatives.