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Business & Computer
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Counseling Center
Student & Community
Services Bldg. 2nd Fl.
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Career Center
Student & Community
Services Bldg. 2nd Fl.
408-864-5711

Please visit the Counseling Center to apply for certificates and degrees, and for academic planning assistance.

Certificate of Achievement Requirements

A minimum "C" grade in each major course.
Note: A maximum of six (6) quarter units may be transferred from other academic institutions.

Certificate of Achievement-Advanced Requirements

1. A minimum "C" grade in each major course.
2. Demonstrated proficiency in English and mathematics as evidenced by eligibility for EWRT 1A or ESL 5 and eligibility for MATH 114.
Note: A maximum of 18 quarter units may be transferred from other academic institutions.

A.A./A.S. Degree Requirements

1. Completion of all General Education (GE) requirements (31-42 quarter units) for the A.A./A.S. degree. GE units must be completed with a minimum 2.0 GPA ("C" average).
2. Completion of all major requirements. Each major course must be completed with a minimum "C" grade.
Major courses can also be used to satisfy GE requirements (except for Liberal Arts degrees).
Note: A maximum of 22 quarter units from other academic institutions may be applied toward the major.
3. Completion of a minimum of 90 degree-applicable quarter units (GE and major units included). All De Anza courses must be completed with a minimum 2.0 GPA ("C" average). All De Anza courses combined with courses transferred from other academic institutions must be completed with a minimum 2.0 GPA ("C" average).
Note: A minimum of 24 quarter units must be earned at De Anza College.

Major courses for certificates and degrees must be completed with a letter grade unless a particular course is offered on a pass/no-pass basis only.

Business Programming

Certificate of Achievement-Advanced

Complete the following and meet the corresponding certificate requirements.

ACCT 1A	Financial Accounting I	4
BUS 10	Introduction to Business	5
CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 14A	Visual Basic.NET Programming I	4.5
CIS 14B	Visual Basic.NET Programming II	4.5
CIS 64A	Database Management Systems	4.5
CIS 66	Intro. to Data Communication & Networking	5
Complete one (1) course from:		4.5
CIS 15C	Data Structures (4.5)	
CIS 63	Systems Design (4.5)	
Complete one (1) course from*:		4-4.5
CIS 3	Business Information Systems (4.5)	
CIS 14C	Visual Basic.NET Programming III (4.5) (must have CIS 14B)	
CIS 67A	Local Area Networks (4)	
Total Units Required		46-46.5

Recommended Course Sequence:

1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
ACCT 1A	CIS 14A	CIS 66	CIS 64
CIS 15AG	CIS 15BG	CIS 14B/15C	(*CIS 14C)
(*CIS 3)	CIS 63	BUS 10	(*CIS 67A)

Business Programming

A.A. Degree

Complete the Certificate of Achievement-Advanced requirements for the major and meet the A.A./A.S. degree requirements.

Major	Requirements for Business Programming	46-46.5 units
GE	Cert. of Achievement-Advanced General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
Total Units Required		90 units

Recommended Course Sequence:

1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	5th Qtr	6th Qtr
ACCT 1A	BUS 10	CIS 66	CIS 64	CIS 63	(*CIS 67A or CIS 3)
CIS 15AG	CIS 15BG	CIS 14A	CIS 14B/15C	(*CIS 14C)	

Network Basics

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 66	Intro. to Data Communication & Networking	5
CIS 67A	Local Area Networks	4
CIS 75A	Internet Concepts and TCP/IP Protocols	5
Total Units Required		18.5

Network Programming

Certificate of Achievement-Advanced

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 15C	Data Structures	4.5
CIS 18A	Introduction to UNIX/LINUX	4.5
CIS 26B	Advanced C Programming	4.5
CIS 66	Introduction to Data Communication and Networking	5
CIS 75A	Internet Concepts and TCP/IP Protocols	5
CIS 75B	Internet Programming with TCP/IP	5
Complete one (1) course from the following:		4.5-5
CIS 18B	Advanced UNIX/LINUX (4.5)	
CIS 21JA	Introduction to 8086 IA32 Processor Assembly Language (4.5)	
CIS 31	Operating System Concepts (5)	
CIS 33A	Programming in PERL (4.5)	
CIS 67A	Local Area Networks (4)	
CIS 67B	Introduction to Wide Area Networking (4)	
Total Units Required		42-42.5

Recommended Course Sequence:

1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
CIS 15AG	CIS 15BG	CIS 15C	CIS 75B
CIS 18A	CIS 66	CIS 26B	CIS 31 or 67A or 67B
	CIS 75A	18B or 21JA or 33A	

Network Programming

A.A. Degree

Complete the Certificate of Achievement-Advanced requirements for the major and meet the A.A./A.S. degree requirements.

Major	Requirements for Network Programming	
	Cert. of Achievement-Advanced	42-42.5 units
GE	General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
	Total Units Required	90 units

Recommended Course Sequence:

1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	5th Qtr	6th Qtr
CIS 15AG	CIS 15BG	CIS 15C	CIS 26B	CIS 75A	(CIS 18B or 31 or 33A or 67A or 67B)
		CIS 18A	CIS 66	CIS 75B	

Programming in C/C++

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 15C	Data Structures	4.5

Complete one (1) course from: 4.5

CIS 26B	Advanced C Programming (4.5)	
CIS 27	Programming in C++ for C Programmers (4.5)	
	Total Units Required	18

Programming in JAVA

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 35A	Introduction to Java Programming	4.5
CIS 35B	Advanced Java Programming	4.5
CIS 53	Distributed Processing Using Java	4.5
	Total Units Required	22.5

Programming in PERL

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 18A	Introduction to UNIX/LINUX	4.5
CIS 33A	Programming in PERL	4.5
CIS 33B	Advanced PERL Programming	4.5
	Total Units Required	22.5

Systems Programming

Certificate of Achievement-Advanced

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 15C	Data Structures	4.5
CIS 18A	Introduction to UNIX/LINUX	4.5
CIS 21JA	Introduction to 8086 IA32 Processor Assembly Language	4.5
CIS 26B	Advanced C Programming	4.5
CIS 27	Programming in C++ for C Programmers	4.5
CIS 31	Operating System Concepts	5

Complete one (1) course from*: 4.5-5

CIS 18B	Advanced UNIX/LINUX (4.5)	
CIS 28	Object Oriented Analysis and Design with C++ (4.5)	
CIS 35A	Introduction to Java Programming (4.5)	
CIS 66	Intro. to Data Communication and Networking (5)	
	Total Units Required	41-41.5

Recommended Course Sequence:

1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	5th Qtr
CIS 15AG	CIS 15BG	CIS 15C	CIS 27	(*CIS 18B or 28 or 35A or 66)
CIS 18A	CIS 21JA	CIS 26B	CIS 31	

Systems Programming

A.A. Degree

Complete the Certificate of Achievement-Advanced requirements for the major and meet the A.A./A.S. degree requirements.

Major	Requirements for Systems Programming	
	Cert. of Achievement-Advanced	41-41.5 units
GE	General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
	Total Units Required	90 units

Recommended Course Sequence:

1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	5th Qtr	6th Qtr
CIS 15AG	CIS 15BG	CIS 15C	CIS 26B	CIS 27	(*CIS 18B or 28 or 35A or 66)
CIS 18A	CIS 21JA	CIS 31			

UNIX/LINUX Operating System

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

CIS 15AG	Intro. to Computer Programming Using C	4.5
CIS 15BG	Intermediate Problem Solving in C	4.5
CIS 18A	Introduction to UNIX/LINUX	4.5
CIS 18B	Advanced UNIX/LINUX	4.5
CIS 18C	Shell Programming	4.5
	Total Units Required	22.5

Visual Basic Programming

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

CIS 3	Business Information Systems	4.5
CIS 14A	Visual Basic.NET Programming I	4.5
CIS 14B	Visual Basic.NET Programming II	4.5
CIS 14C	Visual Basic.NET Programming III	4.5
	Total Units Required	18

Web Development

Certificate of Achievement †

Complete the following and meet the corresponding certificate requirements.

Complete one (1) course from: 4.5	
CIS 15AG	Intro. to Computer Programming Using C (4.5)
CIS 14A	Visual Basic Programming I (4.5)

Complete the following:

CIS 18A	Introduction to UNIX/LINUX	4.5
CIS 89A	World Wide Web Page Development	3
CIS 89C	Client Side Programming with JavaScript	4.5
CIS 94	Introduction to Internet and World Wide Web I or CAOS 94	1
CAOS 113A	Web Authoring Software (Dreamweaver)	4
	(or both CAOS 113I, 113Q - 2 units ea.)	
	Total Units Required	21.5

† This certificate was submitted for State approval. Please check with the department for the status.