

## ACCOUNTING

### Certificate of Completion-Entry Level Bookkeeper

#### Certificate of Proficiency-Accounting

#### Associate in Science Degree

#### Transfer Program

The Business Department offers a transfer curriculum to a four-year university, an AS Degree, and a certificate program designed to give the students both formal and practical training in accounting. The accounting AS degree and certificate programs are designed to give students enough practical experience so that they can secure a position in either the public, governmental, or private accounting sector when they have completed the recommended 25.5 - 29.5 units. Courses specifically required for the student's major must be evaluated by a letter grade, not by the credit (CR) grade.

The Certificate of Completion is designed for those individuals that are interested in job opportunities at the entry level in bookkeeping and or computerized accounting data entry. Those students that are interested in becoming professional bookkeepers may apply some of the course work in this certificate to the Certificate of Proficiency in Accounting and the accounting A.S. degree.

The demand for entry level bookkeepers and accounting data entry personnel continues to remain high. Entry level positions pay between \$15 and \$25 per hour depending upon experience.

### CERTIFICATE OF COMPLETION – ENTRY LEVEL BOOKKEEPER

#### Core Requirements

#### Complete Core Courses, 10-12 units

	UNITS
ACTG. 100 Accounting Procedures	3.0
ACTG. 180 Payroll and Business Taxes	1.5
ACTG. 190 QuickBooks and QuickBooks Pro for the Paraprofessional I	1.5
ACTG. 192 QuickBooks and QuickBooks Pro for the Paraprofessional II	1.5
CBOT 435 Spreadsheets	1.0-3.0
CBOT 448 Using Microsoft Windows	1.5
<b>Certificate Unit Requirements Total</b>	<b>10-12 +</b>

### CERTIFICATE OF PROFICIENCY - ACCOUNTING

#### Core and Selective Requirements

#### Complete Core Courses, 19.5–23.5 units

	UNITS
ACTG 121 Financial Accounting	3-5
ACTG 131 Managerial Accounting	3-5
ACTG 180 Payroll & Business Taxes	1.5
ACTG 190 Quickbooks and Quickbooks Pro for the Paraprofessional I	1.5
ACTG 192 Quickbooks and Quickbooks Pro for the Paraprofessional II	1.5
BUS. 100 Survey of Business	3.0
CBOT 430 Computer Applications, Part I	1.5
CBOT 431 Computer Applications, Part II	1.5
CBOT 435 Spreadsheets	3.0

#### Selective Courses, choose a minimum of 6 units from the following:

ACTG 100 Accounting Procedures	3.0
ACTG 133 Intro. To Spreadsheets for Managerial Accounting	1.0
ACTG 171 Individual Income Tax Procedures	3.0
ACTG 180 Payroll and Business Taxes	1.5
ACTG 672 Cooperative Education Internship	1-6
BUS. 101 Human Relations in Business	3.0
BUS. 103 Introduction to Business Information Systems	3.0
BUS. 201 Business Law	3.0
CBOT 415 Beginning Computer Keyboarding	1.5
CBOT 472 Introduction to Word for Windows	1.5
CBOT 474 Intermediate Word for Windows	1.5

**Certificate Unit Requirements Total** **25.5-29.5 +**

### ASSOCIATE IN SCIENCE - ACCOUNTING

#### Core and Selective Requirements

Complete Core & Selective Courses, 25.5–29.5 units, listed under the Certificate of Proficiency-Accounting.

**Associate Degree Unit Requirements Total** **25.5-29.5 \***

### TRANSFER PROGRAM - ACCOUNTING

Cañada College offers lower division coursework required for transfer in the area of Accounting/Business Administration. Usually an Accounting program of study is listed under Business Administration. Students should use PROJECT ASSIST ([www.assist.org](http://www.assist.org)) to research lower division major requirements at the transfer destination(s) of their choice. Also, work with a Counselor/Advisor to determine appropriate transfer coursework.

+ meet Certificate Program requirements listed on page 34.

\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

## ANTHROPOLOGY

### Associate in Arts Degree Transfer Program

Anthropology is the study of peoples of the world from prehistoric to contemporary times. It is concerned with the variability of human populations and their biocultural history. Physical Anthropology concentrates on various biological characteristics, and Cultural Anthropology focuses on socially learned traits.

### ASSOCIATE IN ARTS - ANTHROPOLOGY

#### Core and Selective Requirements

Complete Core Courses, 6 units

	UNITS
ANTH 110 Cultural Anthropology	3
ANTH 125 Physical Anthropology	3

Selective Courses, choose a minimum of 12 units from the following:

	UNITS
ANTH 105 Peoples and Cultures of the World	3
ANTH 360 Indians of North America	3
ANTH 370 Olmec, Maya, Aztec People & Cultures of Mexico & Central America	3
BIOL 110 Principles of Biology	4
<i>or BIOL 130 Human Biology</i>	3
ECON 100 Principles of Macro Economics	3
GEOG 100 Physical Environment	3
GEOL 100 Survey of Geology	3
MATH 200 Elementary Probability & Statistics	4
PALN 110 Ancient Life & Past Environments	3

Associate Degree Unit Requirements Total **18.0 \***

### TRANSFER PROGRAM - ANTHROPOLOGY

Cañada College offers lower division coursework required for transfer in the area of Anthropology. Students should use PROJECT ASSIST ([www.assist.org](http://www.assist.org)) to research lower division major requirements at the transfer destination(s) of their choice. Also, work with a Counselor/Advisor to determine appropriate transfer coursework.

*\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.*

## ART

### Associate in Arts Degree Transfer Program

The Art Department at Cañada College affords a unique experience to the serious student seeking a sound foundation in aesthetics and skill development. The faculty is composed of artist-teachers whose personal sensibilities range from the Classical to the Expressionist. The program has been designed to offer a continuity of study through structured courses based on the life-time experiences of each of the artist-teachers. The ultimate goal of the program is to support each student in the search for a personal form and the development of capabilities by which this form can be manifested.

### ASSOCIATE IN ARTS - ART

#### Core and Selective Requirements

Complete Core Courses, 9 units

	UNITS
ART 101 History of Art I	3
ART 102 History of Art II	3
ART 103 History of Art III	3

Selective Courses, choose a minimum of 9 units from the following list:

ART 201 Form and Composition I	3
ART 204 Drawing I	3
ART 221 Painting I	3
Any other ART 200/300 series courses	6-12

Associate Degree Unit Requirements Total **18.0 \***

### TRANSFER PROGRAM - ART

Cañada College offers lower division coursework required for transfer in the area of Art. Students should use PROJECT ASSIST ([www.assist.org](http://www.assist.org)) to research lower division major requirements at the transfer destination(s) of their choice. Also, work with a Counselor/Advisor to determine appropriate transfer coursework.

*For Multimedia certificates and degrees see MULTIMEDIA section.*

*\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.*

# BIOLOGY

Associate in Science Degree - Biology

Associate in Science Degree - Biology with emphasis in Health Sciences

Transfer Program

Professional School Preparation: Pre-Dental, Pre-Medicine, Pre-Pharmacy, Pre- Veterinary, Pre-Optometry

A major in Biological Sciences is a preparation for advanced academic work, for careers in civil service, industry, or teaching; as a background for professional training in such fields as biological science education, biotechnology, nursing, public health, environmental health, pre-medicine and all related areas of biology. Natural resources are among the most important assets of man and the wise use of renewable resources is basic to development in the economic, social and political areas. The basic pre-professional requirements necessary to transfer are offered in the Biological Sciences, Physical Sciences, and Mathematics Departments.

## ASSOCIATE IN SCIENCE - BIOLOGY

Core and Selective Requirements

Complete Core Courses, 18 units:

	UNITS
BIOL 225 Biology of Organisms	5
BIOL 230 Introduction to Cell Biology	4
CHEM 210 General Chemistry I	5
PHYS 210 General Physics I	4
or PHYS 250 Physics with Calculus I	

Selective Courses, choose a minimum of 12 units from the following list:

	UNITS
BIOL 130 Human Biology	3
CHEM 220 General Chemistry II	5
BIOL 250 Human Anatomy	4
BIOL 240 General Microbiology	4
BIOL 260 Human Physiology	5
BIOL 103 Native Plants and Wildflowers	3
BIOL 310 Nutrition	3
MATH 241/242 Applied Calculus I/II	5/5
or MATH 251/252/253 Analytical Geometry & Calculus I/II/III	
5/5/5	
PHYS 220 General Physics II	4
or PHYS 260/270 Physics with Calculus II/III	4/4
MATH 200 Elementary Probability and Statistics	4

Associate Degree Unit Requirements Total **30.0 \***

## ASSOCIATE IN SCIENCE DEGREE-BIOLOGY WITH EMPHASIS IN HEALTH SCIENCES

Core and Selective Requirements

Complete Core Courses, 16-18 units

	UNITS
BIOL 110 Principles of Biology	4
<u>One</u> of the following courses:	
CHEM 192 Elementary Chemistry	4-5
or CHEM 210 General Chemistry I	
or CHEM 410 Chemistry for Health Sciences	
<u>And two</u> of the following courses:	
BIOL 250 Human Anatomy <sup>□^</sup>	4

BIOL 240 General Microbiology <sup>^•</sup>	4
BIOL 260 Human Physiology <sup>^•</sup>	5

□generally required for Radiologic Technology Program

^generally required for Nursing Programs

•generally required for Respiratory Therapy Programs

Selective Courses, choose a minimum of 10 units from the following list:

BIOL 240 General Microbiology	4
BIOL 250 Human Anatomy	4
BIOL 260 Human Physiology	5
BIOL 310 Nutrition	3
HSCI 430 First Aid	1
CHEM 220 General Chemistry II	5
PHYS 210/220 General Physics I/II	4/4
ANTH 110 Cultural Anthropology	3
PSYC 100 General Psychology	3
PSYC 201 Child Development	3
MATH 200 Elementary Probability and Statistics	4
BIOL 225 Biology of Organisms	5
BIOL 230 Introduction to Cell Biology	4
MATH 241/242 Applied Calculus I/II	5/5
FITN 250 Personal Trainer Preparation: Anatomy & Physiology	3
LCTR 151 Allied Health Science Vocabulary	1

Associate Degree Unit Requirements Total **26.0-28.0 \***

## TRANSFER PROGRAM - BIOLOGY

Cañada College offers lower division coursework required for transfer in the area of Biological Sciences. Students should use PROJECT ASSIST ([www.assist.org](http://www.assist.org)) to research lower division major requirements at the transfer destination(s) of their choice. Also, work with a Counselor/Advisor to determine appropriate transfer coursework.

## PROFESSIONAL SCHOOL PREPARATION

(Pre-Dentistry, Pre-Medicine, Pre Pharmacy, Pre-Veterinary, Pre-Optometry)

Many students are interested in careers in the health sciences and wonder what they should major in at Cañada College. Students often have the misconception that "pre-med" is an academic major and it is not. Students should major in what they enjoy as long as they take the appropriate courses required for professional school (medical, dental, veterinary) admission. Some students choose majors like biological science, genetics, or microbiology, where there is a great deal of overlap between courses required for their major and the professional school undergraduate requirements. Others choose majors not directly related to their career objective, such as English, psychology, anthropology, and use their elective units to meet the professional school requirements. Professional schools, especially medical schools, are looking for well-rounded students who have taken courses in the humanities and social sciences, and who have participated in activities and community work. More information can be found at numerous websites (i.e., [www.aamc.org](http://www.aamc.org)) and by speaking with a Counselor/Advisor.

Each professional school has a minimum number of prerequisite courses to be taken at the undergraduate level. Requirements vary from school to school. Many prerequisite courses may be taken at Cañada College.

\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.



## BUSINESS/CORPORATE MEETING PLANNER

### Certificate of Completion

The Corporate Meeting Planner certificate is designed for the person in a corporate setting who is responsible for organizing and planning travel and meeting arrangements.

### CERTIFICATE OF COMPLETION- BUSINESS/CORPORATE MEETING PLANNER

#### Core and Selective Requirements

Complete Core Courses, 17.5 units

	<b>UNITS</b>
BUS. 149 Introduction to Business Travel Management	3
CBOT 435 Spreadsheets	3
CBOT 436 Database Management	3
CBOT 472 Introduction to Word for Windows	1.5
CBOT 474 Intermediate Word for Windows	1.5
CBOT 480 Using the Internet, Part I	1.5
BUS. 128 Corporate Meeting and Event Planning	3
BUS. 419 On-site Management	1
<b>Certificate Unit Requirements Total</b>	<b>17.5 +</b>

+ meet Certificate Program requirements listed on page 34.

## BUSINESS MANAGEMENT

Certificate of Completion- Human Resources Management/Supervision

Certificate of Proficiency - Business Management/Retail (WAFC)

Certificate of Proficiency - Small Business

Associate in Science - Business Management/Retail (WAFC)

Associate in Science - Small Business

The Business Department prepares students for both entry-level positions and management positions in retail. Students are prepared to plan, organize, direct, and manage employees in a variety of settings.

The Business Department also offers both an A.S. Degree and a Certificate program for those students who wish to become a new business owner and or update their skills as a current business owner. The A.S. Degree and Certificate program are designed to assist students in the development of a small business.

### CERTIFICATE OF COMPLETION- HUMAN RESOURCES MANAGEMENT/SUPERVISION

#### Core and Selective Requirements

Complete Core Courses, 10 units

	<b>UNITS</b>
MGMT 204 Managing Employees Effectively	3
MGMT 215 Management of Human Resources	3
MGMT 220 Organizational Behavior	3
MGMT 222 Financial Budgeting & Control	1
<b>Certificate Unit Requirements Total</b>	<b>10.0 +</b>

### CERTIFICATE OF PROFICIENCY - BUSINESS MANAGEMENT/RETAIL (WAFC)

#### Core and Selective Requirements

Complete Core Courses, 30 units

	<b>UNITS</b>
ACTG 100 Accounting Procedures	3
BUS. 103 Introduction to Business Information Systems	3
BUS. 108 Business Writing and Presentation Methods	3
BUS. 115 Business Mathematics	3
BUS. 180 Marketing	3
BUS. 186 Retail Management	3
MGMT 100 Introduction to Business Management	3
MGMT 215 Management of Human Resources	3
MGMT 204 Managing Employees Effectively or BUS. 101 Human Relations in Business	3
SPCH 120 Interpersonal Communication	3
<b>Certificate Unit Requirements Total</b>	<b>30.0 +</b>

### CERTIFICATE OF PROFICIENCY - SMALL BUSINESS

#### Core and Selective Requirements

Complete Core Courses, 26.5 units

	<b>UNITS</b>
ACTG 100 Accounting Procedures	3
ACTG 194 QuickBooks® & QuickBooks Pro® for the Small Business Person I	1
ACTG 196 QuickBooks® & QuickBooks Pro® for the Small Business Person II	1

BUS. 101 Human Relations in Business	3
BUS. 108 Business Writing & Presentation Methods	3
BUS. 150 Small Business Management	3
BUS. 395 Getting Started in Business	1
BUS. 396 Developing a Business Plan	1
BUS. 397 Developing Tools to Create a Marketing Plan	1
BUS. 399 Laws Governing Small Business Owners	1
BUS. 399 Managing a Business	1
CBOT 430 Computer Applications, Part I	1.5
CBOT 431 Computer Applications, Part II	1.5
CBOT 435 Spreadsheet	3
CBOT 480 Using the Internet, Part I	1.5

**Selective Courses, choose a minimum of 1 unit from the following:**

COOP 670 Cooperative Education/Work Experience	1
COOP 672 Cooperative Education/Internship	1
BUS. 398 Small Business Resource Lab	1
<b>Certificate Unit Requirements Total</b>	<b>27.5 +</b>

**ASSOCIATE IN SCIENCE - BUSINESS MANAGEMENT/RETAIL (W AFC)**

Complete Core Courses, 30 units, listed under the Certificate of Proficiency-Business Management/Retail.

<b>Associate Degree Unit Requirements Total</b>	<b>30.0 *</b>
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**ASSOCIATE IN SCIENCE - SMALL BUSINESS***Core and Selective Requirements*

Complete Core Courses, 27.5 units, listed under the Certificate of Proficiency-Small Business.

<b>Associate Degree Unit Requirements Total</b>	<b>27.5 *</b>
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**TRANSFER PROGRAM - BUSINESS MANAGEMENT/RETAIL (W AFC)**

Cañada College offers lower division coursework required for transfer in the area of Business Management. Students should use PROJECT ASSIST ([www.assist.org](http://www.assist.org)) to research lower division major requirements at the transfer destination(s) of their choice. Also, work with a Counselor/Advisor to determine appropriate transfer coursework.

+ meet Certificate Program requirements listed on page 34.

\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

**COMPUTER BUSINESS OFFICE TECHNOLOGY****Certificate of Completion - General Office****Certificate of Proficiency - Administrative Assistant****Certificate of Proficiency - Administrative Support Assistant****Associate in Science Degree - Administrative Assistant****Associate in Science Degree - Administrative Support Assistant****CERTIFICATE OF COMPLETION - GENERAL OFFICE***Core and Selective Requirements***Complete Core Courses, 12 units**

	<b>UNITS</b>
CBOT 415 Computer Keyboarding	1.5
<i>or CBOT 417 Skill Building</i>	1.5
CBOT 448 Using Microsoft Windows	1.5
CBOT 430 Computer Applications, Part I	1.5
CBOT 431 Computer Applications, Part II	1.5
CBOT 439 Managing Business Document	1.5
CBOT 480 Using the Internet, Part I	1.5
BUS. 101 Human Relations in Business	3.0
<b>Certificate Unit Requirements Total</b>	<b>12.0 +</b>

**CERTIFICATE OF PROFICIENCY - ADMINISTRATIVE ASSISTANT***Core and Selective Requirements***Complete Core Courses, 23.5 units**

	<b>UNITS</b>
BUS. 101 Human Relations in Business	3.0
BUS. 108 Business Writing and Presentation Methods	3.0
CBOT 435 Spreadsheets	3.0
CBOT 436 Database Management	3.0
CBOT 457 Presentation Software: PowerPoint	1.5
CBOT 458 Advanced Presentation Software: PowerPoint	1.5
CBOT 472 Introduction to Word for Windows	1.5
CBOT 474 Intermediate Word for Windows	1.5
CBOT 475 Using Outlook	1.5
CBOT 476 Adobe Acrobat	1.5
CBOT 478 Integrating Microsoft Office	1.5
COOP 670 Cooperative Education/Work Experience	
<i>or COOP 672 Cooperative Education: Internship</i>	1.0

**Selectives (choose a minimum of 6.0 units from the following list of courses):**

BUS. 128 Corporate Meeting and Event Planning	3.0
BUS. 419 Onsite Management	1.0
CBOT 482 Using the Internet, Part 2	1.5
BUS. 100 Survey in Business	3.0
BUS. 115 Business Mathematics	3.0
BUS. 201 Business Law	3.0
ACTG 100 Accounting Procedures	3.0
ACTG 194 QuickBooks and QuickBooks Pro for the Small Business Person I	1.0
<b>Certificate Unit Requirements Total</b>	<b>29.5 +</b>

**CERTIFICATE OF PROFICIENCY – ADMINISTRATIVE SUPPORT ASSISTANT***Core and Selective Requirements*

Complete Core Courses, 17.5 units

	<b>UNITS</b>
BUS. 101 Human Relations in Business	3.0
BUS. 108 Business Writing and Presentation Methods	3.0
CBOT 430 Computer Applications, Part I	1.5
CBOT 431 Computer Applications, Part II	1.5
CBOT 439 Managing Business Documents	1.5
CBOT 448 Using Microsoft Windows	1.5
CBOT 472 Introduction to Word for Windows	1.5
CBOT 474 Intermediate Word for Windows	1.5
CBOT 480 Using the Internet, Part I	1.5
COOP 670 Cooperative Education/Work Experience or COOP 672 Cooperative Education: Internship	1.0

Selectives (choose a minimum of 6.0 units from the following list of courses):

CBOT 415 Beginning Computer Keyboarding or CBOT 417 Skill Building	1.5
CBOT 435 Spreadsheets	3.0
CBOT 436 Database Management	3.0
CBOT 457 Presentation Software: PowerPoint	1.5
CBOT 458 Advanced Presentation Software: PowerPoint	1.5
CBOT 475 Using Outlook	1.5
CBOT 476 Adobe Acrobat	1.5
CBOT 482 Using the Internet, Part II	1.5
BUS. 100 Survey in Business	3.0
BUS. 115 Business Mathematics	3.0
BUS. 201 Business Law	3.0

Certificate Unit Requirements Total **23.5 +****ASSOCIATE IN SCIENCE – ADMINISTRATIVE ASSISTANT***Core and Selective Requirements*

Complete Core &amp; Selective Courses, 29.5 units, listed under the Certificate of Proficiency-Administrative Assistant.

Associate Degree Unit Requirements Total **29.5 \*****ASSOCIATE IN SCIENCE – ADMINISTRATIVE SUPPORT ASSISTANT***Core and Selective Requirements*

Complete Core &amp; Selective Courses, 23.5 units, listed under the Certificate of Proficiency-Administrative Support Assistant.

Associate Degree Unit Requirements Total **23.5 \***

+ meet Certificate Program requirements listed on page 34.

\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.

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**COMPUTER INFORMATION SCIENCE****Associate in Science - Computer Information Science****Transfer Program - Computer Information Science**

The Computer Information Science Program offers an AS degree and a parallel transfer program. Students who already possess a degree will gain substantial skills in computer sciences through completion of the Core Courses. The major for the AS degree in Computer Information Science consists of 19-21 units of Required Core Courses and 12 units of electives chosen from the list of Supporting Subject Courses which complete the major. Other electives for the AS degree may be chosen freely. To earn the AS degree, students also must complete general education and other graduation requirements.

**ASSOCIATE IN SCIENCE - COMPUTER INFORMATION SCIENCE***Core & Selective Requirements*

Complete Core Courses, 19–21 units

Choose either the C++ OR the JAVA path below.

**C++ Path**

	<b>UNITS</b>
CIS 118/119 Introduction to Object-Oriented Program Design/Lab I	3/1
CIS 250/251 Programming Methods I: C++/Lab I: C++	3/1
CIS 252/253 Programming Methods II: C++/Lab II C++	3/1
<i>One of the following courses:</i>	
MATH 200 Elementary Probability and Statistics	4
MATH 241 Applied Calculus I	5
MATH 251 Analytical Geometry & Calculus I	5
MATH 268 Discrete Mathematics	4
<i>One of the following courses:</i>	
COMP 235 Visual Basic Programming	3
CIS 290/291 Computer Architecture/Open Computer Lab II	3/1

**Java Path**

	<b>UNITS</b>
CIS 118/119 Introduction to Object-Oriented Program Design/Lab I	3/1
CIS 284/285 Programming Methods I: Java/Lab I: Java	3/1
CIS 286/287 Programming Methods II: Java/Lab II: Java	3/1
<i>One of the following courses:</i>	
MATH 200 Elementary Probability and Statistics	4
MATH 251 Analytical Geometry & Calculus I	5
MATH 268 Discrete Mathematics	4
<i>One of the following courses:</i>	
COMP 235 Visual Basic Programming	3
CIS 290/291 Computer Architecture/Open Computer Lab	3/1

**Selective Courses, in addition to taking the courses for one of the paths listed above, choose a minimum of 12 units from the following list**

	<b>UNITS</b>
MATH 200 Elementary Probability and Statistics	4
MATH 219 Pre-Calculus College Algebra/Trigonometry	5
MATH 241/242 Applied Calculus I/II	5/5
MATH 251/252/253 Analytical Geometry & Calculus I/II/III	5/5/5
MATH 270 Linear Algebra	3

MATH 275 Ordinary Differential Equations	3
CIS 290/291 Computer Architecture/Open Computer Lab II	3/1
COMP 235 Visual Basic Programming	3
CIT 311 Introduction to the Unix Operating System	1.5
PHYS 210/220 General Physics I/II	4/4
or PHYS 250/260/270 Physics with Calculus I/II/III	4/4/4
ENGR 210 Engineering Graphics	4
ENGR 260/261 Circuits and Devices/Lab	3/1
ENGR 270 Materials Science	3
CHEM 210/220 General Chemistry I/II	5/5
PHIL 103 Critical Thinking	3
<b>Associate Degree Unit Requirements Total</b>	<b>31.0–33.0 *</b>

**TRANSFER PROGRAM - COMPUTER INFORMATION SCIENCE**

Cañada College offers lower division coursework required for transfer in the areas related to Computer Science. In this regard, it is suggested that students research Computer Information Systems, Management Information Systems, Computer Science, and Computer Engineering programs. Students should use PROJECT ASSIST (www.assist.org) to research lower division major requirements at the transfer destination(s) of their choice. Also, work with a Counselor/Advisor to determine appropriate transfer coursework.

*\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.*

**COMPUTER INFORMATION SYSTEMS**

Certificate of Completion - Internet Programming

**CERTIFICATE OF COMPLETION- INTERNET PROGRAMMING**  
Core and Selective Requirements

Complete Core Courses, 9 units

	<b>UNITS</b>
CBOT 483 Creating Web Pages: Introduction to HTML	1
CBOT 484 Creating Web Pages: Intermediate HTML	1
COMP 321/322 JavaScript I/II	1/1
COMP 330/331 Introduction/Intermediate PERL	1/1
COMP 189 Operating Systems Overview	3

Selective courses, choose 6-8 units from Group A or Group B:

**Group A**

CIS 118 Introduction to Object-Oriented Program Design	3
CIS 119 Open Computer Lab I	1
CIS 284 Programming Methods I: Java	3
CIS 285 Open Computer Lab I: Java	1

**Group B**

COMP 103 Introduction to Computer Science	3
COMP 235 Visual Basic Programming	3



**Certificate Unit Requirements Total**

**15.0-17.0 +**

+ meet Certificate Program requirements listed on page 34.



## COMPUTER INFORMATION TECHNOLOGY

**Certificate of Completion – Home Office/Small Business Computer Security**

**Certificate of Proficiency – IT: Network / Tech Support**

**Certificate of Proficiency – IT: UNIX**

**Associate in Science Degree - IT: Network / Tech Support**

**Associate in Science Degree - IT: UNIX**

### **CERTIFICATE OF COMPLETION – HOME OFFICE/SMALL BUSINESS COMPUTER SECURITY**

**Core Requirements**

**Complete Core Courses, 15.0 units**

	<b>UNITS</b>
CIT 422 Help Desk	1.5
CIT 450 PC Maintenance & System Upgrades, Part I	3.0
CIT 453 Troubleshooting Systems	1.5
CIT 467 Internet/Network Security	3.0
CIT 492 Networking Essentials	3.0
CIT 494 Supporting Windows XP Professional	3.0
<b>Certificate Unit Requirements Total</b>	<b>15.0 *</b>

### **CERTIFICATE OF PROFICIENCY – IT: NETWORK/TECH SUPPORT**

The IT Network/Tech Support program is designed to prepare students for employment in network environments using Microsoft products and supporting computer hardware and software used in the industry. Successful completion of the IT/Network Tech Support program will provide the student with the necessary skills and knowledge to design, implement, upgrade, troubleshoot and support Microsoft network environments. Career opportunities in the IT field would include Network Administrator, Windows Desktop Support Engineer, PC/LAN Technician, Computer Support Technician, Hardware/Software consultant, Technical Support Analyst and Help Desk Technician.

**Core Requirements**

**Complete Core Courses, 31 units**

	<b>UNITS</b>
BUS. 101 Human Relations in Business	3.0
BUS. 108 Business Writing & Presentation Methods	3.0
CBOT 430 Computer Applications, Part I	1.5
CBOT 431 Computer Applications, Part II	1.5
CBOT 448 Using Microsoft Windows	1.5
CIT 450 PC Maintenance & System Upgrades Part I	3.0
CIT 451 PC Maintenance & System Upgrades Part II	3.0
CIT 453 Troubleshooting Systems	1.5
CIT 467 Internet/Network Security	3.0
CIT 492 Networking Essentials	3.0
CIT 493 Internetworking Using TCP/IP	3.0
CIT 494 Supporting Windows XP Professional or CIT 498 Windows 2000 Server	3.0
COOP 670 Cooperative Education/Work Experience or COOP 672 Cooperative Education Internship	1.0
<b>Certificate Unit Requirements Total</b>	<b>31.0 +</b>

### **CERTIFICATE OF PROFICIENCY – IT: UNIX**

The UNIX Certificate and A.S. Degree programs are designed to prepare students for employment in the information technology field as UNIX support technicians as well as preparing them to support networks that combine both UNIX and Microsoft Windows products in a networked or stand alone environment.

**Core and Selective Requirements**

**Complete Core Courses, 18.5 units**

	<b>UNITS</b>
CIT 492 Networking Essentials	3.0
CIT 494 Supporting Windows XP Professional or CIT 498 Windows 2000 Server	3.0
CIS 252 Programming Methods II: C++	3.0
CIS 253 Open Computer Lab II: C++	1.0
CIT 311 Introduction to UNIX Operating System	1.5
CIT 340 Introduction to UNIX Systems Administration	1.5
CIT 411 Intermediate UNIX	1.5
CIT 680 UNIX Shell Programming	1.0
CIT 680 Integrating UNIX and Windows Systems	1.0
COOP 670 Cooperative Education/Work Experience or COOP 672 Cooperative Education: Internship	2.0

**Selectives (choose a minimum of 6.0 units from the following list of courses):**

CIS. 250 Programming Methods I: C++	3.0
CIS. 251 Lab I C++	1.0
COMP 236 Java Programming Language	3.0
COMP 330 Introduction to Perl	1.0
COMP 331 Intermediate Perl	1.0
CIT 480 Personal UNIX Systems	0.5
COMP 351 Introduction to PL/SQL	1.5

**Certificate Unit Requirements Total 24.5 +**

### **ASSOCIATE IN SCIENCE – IT: NETWORK/TECH SUPPORT**

**Core Requirements**

**Complete Core Courses, 31 units, listed under the Certificate of Proficiency - IT: Network/Tech Support.**

**Associate Degree Unit Requirements Total 31.0 \***

### **ASSOCIATE IN SCIENCE – IT: UNIX**

**Core and Selective Requirements**

**Complete Core and Selective Courses, 24.5 units, listed under the Certificate of Proficiency - IT: UNIX.**

**Associate Degree Unit Requirements Total 24.5 \***

+ meet Certificate Program requirements listed on page 34.

\* and required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.