CUYAMACA COLLEGE ACADEMIC PROGRAM CHANGES **May 2020** for the 2020-2021 CATALOG

COURSE ADDITIONS

COMPUTER AND INFORMATION SCIENCE 101 - FUNDAMENTALS OF INFORMATION TECHNOLOGY

1.5 UNITS

Prerequisite: None

1 hour lecture, 1.5 hours laboratory

Designed for beginners, no previous computer experience is required. This class introduces students to the various careers that IT has to offer. Students will explore PC Hardware, Operating Systems, Networking, Web design, Programming, Security through highly interactive laboratory exercises:

- Build a personal web page ٠
- Build and secure a home or office network •
- Identify computer components assemble a PC, and install an operating system
- Program lights, motors, and devices

When completed, students will have the ability to make informed decisions regarding their educational pathway toward a career in Information Technology.

COMPUTER AND INFORMATION SCIENCE 170 - INTERNET OF THINGS (IoT) - CONNECTING THINGS

3 UNITS

3 UNITS

Prerequisite: None 2 hours lecture, 3 hours laboratory

From washing machines to sophisticated components of an airplane's jet engine, even organic items like crops and cows, nearly every object can now be connected to the Internet. The ability to connect things and capture useful data from these connections is transforming organizations in every industry and opening doors for new career specializations. This course is for people who love creating devices. From designing electronic circuits to writing code, the IoT (Internet of Things) provides the platform for various types of professionals. The goal of this course is to explore things and their connection to the IoT by conducting hands-on labs both individually and as a member of a team. Discover the basis of this exciting and emerging field using fun, hands-on activities to model securely connecting sensors to cloud services over IP networks and collecting data in an end-to-end IoT system. While an understanding of basic programming (such as PCAP: Programming Essentials in Python), networking and electronics knowledge is useful, it is not required.

COMPUTER AND INFORMATION SCIENCE 172 - INTERNET OF THINGS (IoT) SECURITY

Prerequisite: Successful completion of CIS 170

2 hours lecture, 3 hours laboratory

The explosive growth of connected IoT devices enables the world's digitization, but also increases the exposure to security threats. You will use the latest technologies to perform vulnerability and risk assessments, then research and recommend risk mitigation strategies for common security threats in IoT systems. The world needs more skilled cybersecurity professionals. Adding IoT Security to your skillset differentiates you from other job candidates. Consider becoming an IoT Specialist in Network Security by combining this course with your CCENT/CCNA Routing & Switching and CCNA Security certifications. Or pair IoT Security with the CCNA Cybersecurity Operations certification and increase your employability with a deeper understanding of the anatomy of an attack and how to mitigate it.

COMPUTER AND INFORMATION SCIENCE 271 – PALO ALTO NETWORKS – CERTIFIED NETWORK SECURITY ADMINISTRATOR (PCNSA) **3 UNITS**

Prerequisite: None

Recommended Preparation: CIS 270

2 hours lecture, 3 hours laboratory

Cybersecurity has become an essential survival skill for the modern world. The ability to secure information networks is increasing in demand every day. The Palo Alto Networks firewalls have become the industry standard for front-line Cybersecurity appliances. This course is designed to teach students to configure and manage next-generation firewalls. This is the second course in a series of three that trains students to become Network Security professionals. Students will learn to build and deploy Global Protect systems, manage and maintain high availability firewall protection, and monitor network traffic. Upon completion, students will be prepared to take the PCNSA exam for certification.

MATHEMATICS 020 - FOUNDATIONS FOR QUANTITATIVE REASONING

Prerequisite: None Corequisite: Math 120 1 hour lecture This support course focuses on the skills and concepts needed for success in Quantitative Reasoning (QR). This course is for students concurrently enrolled in Math 120. Students will receive extra support in arithmetic, algebra, geometry, problem solving, technology, and study skills. **Pass/No Pass only. Non-degree applicable.**

PHILOSOPHY 141 – BIOETHICS

Prerequisite: None

3 hours lecture

In this orientation to biomedical ethics, students will explore ethical dilemmas common in the medical field including but not limited to organ transplantation, use of human beings and animals in research, genetic and reproductive technologies, abortion, euthanasia, and delivering healthcare. By considering how concepts such as justice, autonomy, caring, truth-telling, and resource allocation figure into such ethical dilemmas, the student will become familiar with how ethical decision making takes place in the medical field.

3 UNITS

COURSE MODIFICATIONS

The following reflect changes in subject designator, course number and/or title, prerequisite/corequisite/recommended preparation, units, hours, and/or course description. Other areas (e.g., course objectives, course content, student learning outcomes, etc.) may also have been modified to meet Title 5 standards (reflected as *"Review and update of course outline"*). These modifications have been carefully reviewed by the Curriculum, General Education and Academic Policies and Procedures Committee.

PRESENT	PROPOSED CHANGES TO AREAS AS INDICATED	
ARABIC 120 – ARABIC I	Review and update of course outline	
ARABIC 121 – ARABIC II	Review and update of course outline	
ARABIC 122 – ARABIC FOR THE ARABIC SPEAKER I	Review and update of course outline	
ARABIC 123 – ARABIC FOR THE ARABIC SPEAKER II	Review and update of course outline	
ARABIC 145 – ARABIC CIVILIZATIONS	Review and update of course outline	
ARABIC 220 – ARABIC III	Review and update of course outline	
ARABIC 221 – ARABIC IV	Review and update of course outline	
ARABIC 250 – CONVERSATIONAL ARABIC I	Review and update of course outline	
ARABIC 251 – CONVERSATIONAL ARABIC II	Review and update of course outline	
ARABIC 254 – CONVERSATIONAL IRAQI DIALECT	Review and update of course outline	
ART 120 – TWO-DIMENSIONAL DESIGN	Review and update of course outline	
ART 121 – PAINTING I	Review and update of course outline	
ART 124 – DRAWING I	Review and update of course outline	
ART 125 – DRAWING II	Review and update of course outline	
ART 129 – THREE-DIMENSIONAL DESIGN	Review and update of course outline	
ART 135 – WATERCOLOR I	Review and update of course outline	
ART 148 –APPLIED DESIGN AND CRAFTS	Review and update of course outline	
ART 220 – PAINTING II	Review and update of course outline	
ART 221 – PAINTING III	Review and update of course outline	
ART 222 – PAINTING IV	Review and update of course outline	
ART 230 – FIGURE DRAWING I	Review and update of course outline	
ART 231 – FIGURE DRAWING II	Review and update of course outline	
ART 232 – FIGURE DRAWING III	Review and update of course outline	
ART 233 – FIGURE DRAWING IV	Review and update of course outline	
ART 235 – WATERCOLOR II	Review and update of course outline	
ART 236 – WATERCOLOR III	Review and update of course outline	
ART 241 – ILLUSTRATION I	Review and update of course outline	
ART 242 – ILLUSTRATION II	Review and update of course outline	
ASTRONOMY 110 – DESCRIPTIVE ASTRONOMY	Review and update of course outline	
AUTOMOTIVE TECHNOLOGY 140 – FOUR WHEEL ALIGNMENT	Review and update of course outline	
AUTOMOTIVE TECHNOLOGY 145 – ADVANCED FOUR WHEEL ALIGNMENT	Review and update of course outline	
AUTOMOTIVE TECHNOLOGY 160 – AIR CONDITIONING AND HEATING SYSTEMS	Review and update of course outline	
AUTOMOTIVE TECHNOLOGY 165 – ADVANCED AIR CONDITIONING AND HEATING SYSTEMS	Review and update of course outline	
AUTOMOTIVE TECHNOLOGY 180 – AUTOMOTIVE SERVICE ADVISOR	Review and update of course outline	
BIOLOGY 130 – GENERAL BIOLOGY I	Review and update of course outline	
BIOLOGY 131 – GENERAL BIOLOGY I LABORATORY	Review and update of course outline	

PRESENT	PROPOSED CHANGES TO AREAS AS INDICATED
BUSINESS OFFICE TECHNOLOGY 223 – OFFICE WORK EXPERIENCE 75 hours paid or 60 hours unpaid, 1 unit Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned.	75 hours paid or 60 hours non-paid, 1 unit Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned.
BUSINESS OFFICE TECHNOLOGY 224 – OFFICE WORK EXPERIENCE 150 hours paid or 120 hours unpaid work experience per semester, 2 units Work experience in an office setting. <i>Occupational cooperative work</i> <i>experience credit may accrue at the rate of one to eight units per</i> <i>semester for a maximum total of sixteen units, and students must</i> <i>work 75 paid hours or 60 unpaid hours per unit earned.</i> A student taking this course for 2 units must work 150 hours paid or 120 hours unpaid.	150 hours paid or 120 hours non-paid work experience per semester, 2 units Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a maximum total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. A student taking this course for 2 units must work 150 hours paid or 120 hours non-paid.
BUSINESS OFFICE TECHNOLOGY 225 – OFFICE WORK EXPERIENCE 225 hours paid or 180 hours unpaid work experience per semester, 3 units Work experience in an office setting. <i>Occupational cooperative work</i> <i>experience credit may accrue at the rate of one to eight units per</i> <i>semester for a maximum total of sixteen units, and students must</i> <i>work 75 paid hours or 60 unpaid hours per unit earned.</i> A student taking this course for 3 units must work 225 hours paid or 180 hours unpaid.	225 hours paid or 180 hours non-paid work experience per semester, 3 units Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a maximum total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. A student taking this course for 3 units must work 225 hours paid or 180 hours non-paid.
CADD TECHNOLOGY 132 – ADVANCED COMPUTER-AIDED DRAFTING AND DESIGN IN 3D MODELING	Review and update of course outline
CHILD DEVELOPMENT 106 – PRACTICUM: BEGINNING OBSERVATION AND EXPERIENCE	Review and update of course outline
CHILD DEVELOPMENT 126 – ART FOR CHILD DEVELOPMENT	Review and update of course outline
CHILD DEVELOPMENT 130 – CURRICULUM: DESIGN AND IMPLEMENTATION	Review and update of course outline
CHILD DEVELOPMENT 132 – OBSERVATION AND ASSESSMENT: FIELD EXPERIENCE SEMINAR	Review and update of course outline
CHILD DEVELOPMENT 136 – ADULT SUPERVISION	Review and update of course outline
CHILD DEVELOPMENT 141 – WORKING WITH CHILDREN WITH SPECIAL NEEDS	Review and update of course outline
CHILD DEVELOPMENT 143 – RESPONSIVE PLANNING FOR INFANT/TODDLER CARE	Review and update of course outline
CHILD DEVELOPMENT 145 – CHILD ABUSE AND FAMILY VIOLENCE IN OUR SOCIETY	Review and update of course outline
CHILD DEVELOPMENT 212 – PRACTICUM IN EARLY CHILDHOOD EDUCATION	Review and update of course outline
CHILD DEVELOPMENT 213 – OBSERVATION AND ASSESSMENT	Review and update of course outline
COMMUNICATION 122 – PUBLIC SPEAKING	Review and update of course outline
COUNSELING 095 – ACADEMIC AND FINANCIAL AID PLANNING	Review and update of course outline
COUNSELING 101 – INTRODUCTION TO COLLEGE	Review and update of course outline
COUNSELING 110 – CAREER DECISION MAKING	Review and update of course outline
COUNSELING 120 – COLLEGE AND CAREER SUCCESS	Review and update of course outline
COUNSELING 130 – STUDY SKILLS AND TIME MANAGEMENT	Review and update of course outline
COUNSELING 140 – SELF AWARENESS AND INTERPERSONAL RELATIONSHIPS	Review and update of course outline
COUNSELING 150 – TRANSFER SUCCESS	Review and update of course outline
ECONOMICS 120 – PRINCIPLES OF MACROECONOMICS	Review and update of course outline

PRESENT	PROPOSED CHANGES TO AREAS AS INDICATED
ECONOMICS 121 – PRINCIPLES OF MICROECONOMICS	Review and update of course outline
ENGINEERING 120 – ENGINEERING COMPUTER APPLICATIONS	Review and update of course outline
ENGINEERING 182 – WORK EXPERIENCE IN ENGINEERING TECHNOLOGY	Review and update of course outline
ENGINEERING 199 – SPECIAL STUDIES OR PROJECTS IN ENGINEERING	Review and update of course outline
ENGINEERING 200 – ENGINEERING MECHANICS–STATICS	Review and update of course outline
ENGINEERING 220 – ENGINEERING MECHANICS–DYNAMICS	Review and update of course outline
ENGINEERING 260 – ENGINEERING MATERIALS	Review and update of course outline
ENGINEERING 270 – DIGITAL DESIGN	Review and update of course outline
ENGLISH 126 – CREATIVE WRITING	Review and update of course outline
ENGLISH 201 – IMAGES OF WOMEN IN LITERATURE	Review and update of course outline
ENGLISH 217 – FANTASY AND SCIENCE FICTION	Review and update of course outline
ENGLISH 221 – BRITISH LITERATURE I	Review and update of course outline
ENGLISH 222 – BRITISH LITERATURE II	Review and update of course outline
ENGLISH 231 – AMERICAN LITERATURE I	Review and update of course outline
ENGLISH 232 – AMERICAN LITERATURE II	Review and update of course outline
ENGLISH 236— CHICANA/O LITERATURE	Review and update of course outline
ENGLISH 238—BLACK LITERATURE	Review and update of course outline
ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 201 – INTRODUCTION TO INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH	Review and update of course outline
ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 230 – HAZWOPER CERTIFICATION	Review and update of course outline
EXERCISE SCIENCE 248 – CONDITIONING FOR INTERCOLLEGIATE	Review and update of course outline
GEOGRAPHY 106 – WORLD REGIONAL GEOGRAPHY	Review and update of course outline
GEOGRAPHY 120 – PHYSICAL GEOGRAPHY: EARTH SYSTEMS	Review and update of course outline
GEOLOGY 104 – EARTH SCIENCE	Review and update of course outline
GEOLOGY 110 – PLANET EARTH	Review and update of course outline
GEOLOGY 111 – PLANET EARTH LABORATORY	Review and update of course outline
HISTORY 114 – COMPARATIVE HISTORY OF THE EARLY AMERICAS	Review and update of course outline
HISTORY 115-COMPARTIVE HISTORY OF THE MODERN AMERICAS	Review and update of course outline
HISTORY 118 – U.S. HISTORY: CHICANO/CHICANA PERSPECTIVES	Review and update of course outline
HISTORY 119 – U.S. HISTORY: CHICANO/CHICANA PERSPECTIVES II	Review and update of course outline
HISTORY 132 – KUMEYAAY HISTORY I: PRECONTACT – 1900	Review and update of course outline
HISTORY 133 – KUMEYAAY HISTORY II: 1900 - PRESENT	Review and update of course outline
HISTORY 148 - EMERGENCE OF THE MODERN MIDDLE EAST	Review and update of course outline
HISTORY 180 – U.S. HISTORY: BLACK PERSPECTIVES I	Review and update of course outline
HISTORY 181 – U.S. HISTORY: BLACK PERSPECTIVES II	Review and update of course outline
HUMANITIES 116 – KUMEYAAY ARTS AND CULTURE	Review and update of course outline
MATHEMATICS 176 – PRECALCULUS: FUNCTIONS AND GRAPHS	Review and update of course outline
MATHEMATICS 245 – DISCRETE MATHEMATICS	Review and update of course outline
MATHEMATICS 285 – DIFFERENTIAL EQUATIONS	Review and update of course outline
NATIVE AMERICAN LANGUAGES 120 – KUMEYAAY I	Review and update of course outline
NATIVE AMERICAN LANGUAGES 121 – KUMEYAAY II	Review and update of course outline

PRESENT	PROPOSED CHANGES TO AREAS AS INDICATED	
NATIVE AMERICAN LANGUAGES 220 – KUMEYAAY III	Review and update of course outline	
PHYSICS 110 – INTRODUCTORY PHYSICS	Review and update of course outline	
PHYSICS 130 – FUNDAMENTALS OF PHYSICS	Review and update of course outline	
PHYSICS 131 – FUNDAMENTALS OF PHYSICS	Review and update of course outline	
PHYSICS 190 – MECHANICS AND HEAT	Review and update of course outline	
PHYSICS 200 – ELECTRICITY AND MAGNETISM	Review and update of course outline	
PHYSICS 210 – WAVE MOTION AND MODERN PHYSICS	Review and update of course outline	
POLITICAL SCIENCE 121 – INTRODUCTION TO U.S. GOVERNMENT AND POLITICS	Review and update of course outline	
POLITICAL SCIENCE 124 – INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS	Review and update of course outline	
POLITICAL SCIENCE 130 – INTRODUCTION TO INTERNATIONAL RELATIONS	Review and update of course outline	
POLITICAL SCIENCE 140 – INTRODUCTION TO CALIFORNIA GOVERNMENTS AND POLITICS	Review and update of course outline	
POLITICAL SCIENCE 170 – INTRODUCTION TO POLITICAL SCIENCE RESEARCH METHODS	Review and update of course outline	
SPANISH 221 – SPANISH IV	Review and update of course outline	
SPANISH 250 – CONVERSATIONAL SPANISH I	Review and update of course outline	
SPANISH 251 – CONVERSATIONAL SPANISH II	Review and update of course outline	
WORK EXPERIENCE 110 – GENERAL COOPERATIVE WORK EXPERIENCE EDUCATION 75 hours paid or 60 hours unpaid work experience per unit, 1-3 units Supervised work experience to assist students in acquiring desirable work habits, attitudes and career awareness. Jobs may or may not be directly related to students' educational goals. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned. May	75 hours paid or 60 hours non-paid work experience per unit, 1-3 units Supervised work experience to assist students in acquiring desirable work habits, attitudes and career awareness. Jobs may or may not be directly related to students' educational goals. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May	

DISTANCE EDUCATION

Course	Title
ARBC 120	Arabic I
ARBC 121	Arabic II
ARBC 122	Arabic for the Arabic Speaker I
ARBC 123	Arabic for the Arabic Speaker II
ARBC 145	Arabic Civilizations
ARBC 220	Arabic III
ARBC 221	Arabic IV
ARBC 250	Conversational Arabic I
ARBC 251	Conversational Arabic II
ARBC 254	Conversational Iraqi Dialect
ASTR 110	Descriptive Astronomy
BIO 130	General Biology I
BIO 131	General Biology I Laboratory
CADD 132	Advanced Computer-Aided Drafting and Design in 3D Modeling
CD 126	Art for Child Development
CD 130	Curriculum: Design and Implementation
CD 132	Observation and Assessment: Field Experience Seminar
CD 136	Adult Supervision
CD 141	Working with Children with Special Needs
CD 143	Responsive Planning for Infant/Toddler Care
CD 145	Child Abuse and Family Violence in Our Society
CD 212	Practicum in Early Childhood Education
CD 213	Observation and Assessment
COMM 122	Public Speaking
COUN 095	Academic and Financial Aid Planning
COUN 101	Introduction to College
EHSM 201	Introduction to Industrial Hygiene and Occupational Health (hybrid only)
EHSM 230	Hazwoper Certification (hybrid only)
ENGR 120	Engineering Computer Applications
ENGR 182	Work Experience in Engineering Technology
ENGR 199	Special Studies or Projects in Engineering
ENGR 200	Engineering Mechanics-Statics
ENGR 220	Engineering Mechanics–Dynamics
ENGR 260	Engineering Materials
ENGR 270	Digital Design

ENGL 126	Creative Writing
ENGL 201	Images of Women in Literature
ENGL 217	Fantasy and Science Fiction
ENGL 221	British Literature I
ENGL 222	British Literature II
ENGL 231	American Literature I
ENGL 232	American Literature III
ENGL 236	Chicana/O Literature
ENGL 238	Black Literature
GEOG 106	World Regional Geography
GEOG 120	Physical Geography: Earth Systems
GEOL 104	Earth Science
GEOL 110	Planet Earth
GEOL 111	Planet Earth Laboratory
HIST 114	Comparative History of the Early Americas
HIST 115	Comparative History of the Modern Americas
HIST 118	U.S. History: Chicano/Chicana Perspectives I
HIST 119	U.S. History: Chicano/Chicana Perspectives II
HIST 132	Kumeyaay History I: Precontact - 1900
HIST 133	Kumeyaay History II: 1900 - Present
HIST 148	Emergence of the Modern Middle East
HIST 180	U.S. History: Black Perspectives I
HIST 181	U.S. History: Black Perspectives II
HUM 116	Kumeyaay Arts and Culture
MATH 176	Precalculus: Functions and Graphs
MATH 245	Discrete Mathematics
NAKY 120	Kumeyaay I
NAKY 121	Kumeyaay II
NAKY 220	Kumeyaay III
PHIL 141	Bioethics
РНҮС 110	Introductory Physics
РНҮС 130	Fundamentals of Physics
РНҮС 131	Fundamentals of Physics
РНҮС 190	Mechanics and Heat
РНҮС 200	Electricity and Magnetism
РНҮС 210	Wave Motion and Modern Physics
POSC 170	Introduction to Political Science Research Methods
SPAN 221	Spanish IV
SPAN 250	Conversational Spanish I
SPAN 251	Conversational Spanish II

EMERGENCY REMOTE TEACHING

Course	Title
ART 120	Two-Dimensional Design
ART 121	Painting I
ART 124	Drawing I
ART 125	Drawing II
ART 129	Three-Dimensional Design
ART 135	Watercolor I
ART 148	Applied Design and Crafts
ART 220	Painting II
ART 221	Painting III
ART 222	Painting IV
ART 230	Figure Drawing I
ART 231	Figure Drawing II
ART 232	Figure Drawing III
ART 233	Figure Drawing IV
ART 235	Watercolor II
ART 236	Watercolor III
ART 241	Illustration I
ART 242	Illustration II
CD 106	Practicum: Beginning Observation and Experience
ES 248	Conditioning for Intercollegiate Athletes

DEGREE AND CERTIFICATE MODIFICATIONS

BUSINESS GENERAL Associate in Science Degree

This degree program is designed to develop and foster those skills and understandings which can be utilized for employment in an increasingly challenging business environment. The curriculum provides students with a broad preparation for a career in business. Business courses are included which provide a solid background for future promotion in a chosen occupational area. The degree is designed for students who do not plan to transfer to a four-year college or university.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply accounting concepts and methods to interpret financial statements for evaluating the financial position and performance of organizations.
- Recognize and appropriately respond to ethical and legal concerns relating to human resource and organizational management.
- Identify and analyze business problems or opportunities and effectively communicate recommendations for courses of actions.

CAREER OPPORTUNITIES

Administrative Assistant Bookkeeper

- * Budget Consultant Buyer
- Conciliator
- * Credit Analyst Employment Interviewer
- * Hospital Administrator Sales Agent
- * Trust Officer
- * Bachelor Degree or higher required

Associate in Science Degree Requirements:

Course	Title	Units
BUS 109	Elementary Accounting	3
or		
BUS 120	Financial Accounting	4
BUS 110	Introduction to Business	3
BUS 115	Human Relations in Business	3
BUS 125	Business Law: Legal Environment of Business	3
BUS 128	Business Communication	3
BUS 161	Business Internship	1-3
BUS 195	Principles of Money Management for Success	3
BOT 174	Computer Concepts and Applications	3
or		
CIS 110	Principles of Information Systems	4
ECON 110	Economic Issues and Policies	3
or		
ECON 120	Principles of Macroeconomics	3
	Total Required	24-26 25-29
	Plus General Education Requirements	

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Business–General. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

COMPUTER AND INFORMATION SCIENCE

I. NETWORKING, SECURITY AND SYSTEM ADMINISTRATION

These degree programs prepare students for careers in computer networking or system administration and related fields. Upon completion, students may find entry level positions as computer support technicians, junior network administrators, junior system administrators, hardware technicians, data/ voice/video cabling technicians, network project managers, designers/estimators or technical support personnel. The major prepares students to work as team members in an information technology group which designs, evaluates, tests, installs and maintains corporate networks. Preparation for the following industry certifications: A+, Network+, Security+, Linux+, Microsoft Certified Technician (MCT) in Windows and Windows Server (active directory, network infrastructure and applications infrastructure), Linux Profession Institute Certification Level 2, Certified Wireless Network Administrator (CWNA), CISCO Certified Network Associate (CCNA), Certified Ethical Hacking (CEH).

A. NETWORKING, SECURITY AND SYSTEM ADMINISTRATION - ENTERPRISE NETWORKING

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

 Install, configure, upgrade, diagnose and troubleshoot a personal computer and its associated networking hardware and software in accordance with industry standards.

Associate in Science Degree Requirements:

Core Curriculum:		
Course	Title	Units
CIS 120	Computer Maintenance and A+ Certification	3
CIS 121	Network Cabling Systems	3
CIS 125	Network+ Certification	3
CS 119	Program Design and Development	3
CS 119L	Program Design and Development Lab	<u>1</u>
		13
Areas of Emphasis	:	
CIS 190	Windows Operating System	3
or		
CIS 191	Linux Operating System	3
CIS 201	Cisco Networking Academy I	3
CIS 202	Cisco Networking Academy II	3
CIS 203	Cisco Networking Academy III	3
CIS 204	Cisco Networking Academy IV	3
CIS 209	Cisco Networking Academy IX	3
or		
CIS 263	Fundamentals of Network Security	<u>3</u>
		18
Select three of the	following:	
<u>CIS 101</u>	Fundamental of Information Technology	1.5
CIS 210	Cisco Networking Academy–Voice	4
CIS 261	NSSA Degree Capstone	2
CIS 262	Wireless Networking	3
CIS 264	Certified Ethical Hacking	3
CIS 265	Computer Forensics	3
<u>CIS 271</u>	Palo Alto Networks – Certified Network Security Administrator (PCNSA)	3
		8 <u>6.5-10</u>
	Total Required Including Core Classes	39 <u>37.5-41</u>
	Plus General Education Reguirement	

Certificate of Achievement

Students who complete only the courses required for the major including an area of emphasis qualify for a Certificate in Networking, Security and System Administration - Enterprise Networking. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

B. NETWORKING, SECURITY AND SYSTEM ADMINISTRATION - ENTERPRISE SYSTEM ADMINISTRATION

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

 Install, configure, upgrade, test, and troubleshoot a personal computer (hardware, system software, and networking hardware and software) and Linux and Windows servers (directory services, networking, print services, server security, remote access, DNS, DHCP, web server, file server, mail server, FTP server, file systems, partitions, logical volumes, server/network performance, and data backup and recovery).

Associate in Science Degree Requirements:

Core Curriculum:

core curriculuin		
Course	Title	Units
CIS 120	Computer Maintenance and A+ Certification	3
CIS 121	Network Cabling Systems	3
CIS 125	Network+ Certification	3
CS 119	Program Design and Development	3
CS 119L	Program Design and Development Lab	<u>1</u>
		13
Areas of Emphasis:		

Aleas of Emphasis.		
CIS 190	Windows Operating System	3
CIS 191	Linux Operating System	3
CIS 290	Windows Server–Installing and Configuring	2
CIS 291	Linux System Administration	3
CIS 293	Windows Server–Administering	2
CIS 294	Windows Server–Advanced Configuration	2
		15

Select four of the f	following:	
CIS 140	Databases	3
CIS 162	Technical Diagramming Using Microsoft Visio	2
CIS 170	Internet of Things (IoT) Connecting Things	3
CIS 172	Internet of Things (IoT) Security	3
CIS 261	NSSA Degree Capstone	2
CIS 263	Fundamentals of Network Security	3
CIS 264	Certified Ethical Hacking	3
CIS 265	Computer Forensics	3
CIS 295	VMware Certified Professional	<u>3</u>
		10-12
	Total Required Including Core Classes	38-40
	Plus General Education Requirement	

Certificate of Achievement

Students who complete only the courses required for the major including an area of emphasis qualify for a Certificate in Networking, Security and System Administration-Enterprise System Administration. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

ECONOMICS FOR TRANSFER (AA-T)

The AA-T in Economics for Transfer provides a broad exposure to the field of economics. Students will learn about the factors that determine the production, distribution and consumption of goods and services. They will come to understand the behavior and interactions of economic agents and how economies work. This major prepares student to transfer to a California State University, where a baccalaureate degree may be earned in Economics or a closely related field.

The following is required for the AA-T in Economics for Transfer degree:

- 1. 60 semester or 90 quarter CSU-transferable units;
- 2. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements;
- 3. Minimum of 18 semester or 27 quarter units in the major or area of emphasis;
- 4. Minimum grade point average (GPA) of 2.0;
- 5. Grade of C or better in all courses required for the major or area of emphasis.

Program Learning Outcomes

Upon completion of this certificate, students will be able to:

- Use economic models to predict changes in societal outcomes based on changes in economic variables.
- Identify and apply economic principles to personal-life decisions.
- Use microeconomic and macroeconomic models to explain demand, supply, and changes in output, employment, inflation and growth;
- Understand and apply core economic concepts such as opportunity cost, the role of the market; present value; exchange rates; marginal utility; the importance of incentives, and the connections between economic interests of individuals and society.

Associate in Arts for Transfer Degree Requirements:

Course	Title	Units
Required Core:		
ECON 120	Principles of Macroeconomics	3
ECON 121	Principles of Microeconomics	3
MATH 160	Elementary Statistics	4
MATH 178	Calculus for Business, Social and Behavioral Sciences	4
or		
MATH 180	Analytic Geometry and Calculus I	5
List A: (Select 1 cou	rse)	
BUS 120	Financial Accounting	4
BUS 121	Managerial Accounting	4
BUS 128	Business Communication	3
CIS 110	Principles of Information Systems	4

List B: (Select 1-2 courses; 3-4 units) Any List A course not used

	<u>3-4</u>
Total Required	21-23
Double-Counted Units	9-12/9
General Education Requirements (CSU-GE or IGETC)	39/37
Electives	7 <u>-12/9-11</u>
Total Degree Units	60

GENERAL STUDIES: HUMANITIES AND FINE ARTS

The Associate Degree in General Studies with an Area of Emphasis provides an opportunity for students to design a program of study meaningful and appropriate to their own needs and academic interests. The degree includes general education and a focused area of study. Students may choose to earn this degree for preparation for employment or for personal development.

REQUIREMENTS

To meet the General Studies degree requirements, a student must complete the following:

I. AS or AA General Education Requirements (see Degree Requirements and Transfer Information section)

AND

II. Areas of Emphasis

Choose a minimum of 18 units from one Area of Emphasis:

- A. Business and Technology
- B. Communication and Language Arts
- C. Humanities and Fine Arts
- D. Lifelong Health, Well-Being and Self- Development
- E. Science and Mathematics
- F. Social and Behavioral Sciences

The Associate in Arts in General Studies with an Emphasis in Humanities and Fine Arts will be awarded to students upon completion of general education degree requirements and 18 units in this area. These courses emphasize the study of cultural, humanistic activities and artistic expression of human beings. Students will evaluate and interpret the ways in which people through the ages in different cultures have responded to themselves and the world around them through artistic and cultural creation. Students will develop an aesthetic awareness and incorporate these concepts when constructing value judgments. Students must complete a minimum of six units in Humanities and six units in Fine Arts. The remaining six units may be taken from either category.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze the principle elements of representative examples of art, architecture, literature, theater, philosophy, music, dance, film, or
 other relevant areas of cultural and/or intellectual creativity.
- Demonstrate an awareness of the historical and philosophical contexts of representative areas, movements, media, works, or styles
 of cultural and/or intellectual creativity.
- Employ the language, concepts and methods of interpretive criticism as applicable to the respective categories of human creativity.
- When applicable, apply artistic processes and skills as a creative expression, using a variety of media to communicate meaning and intent in original works of art.

Humanities

ARAM 120, 121, 220 ARBC 120, 121, 122, 123, 220, 221, 250, 251, 254 ART 140, 141, 143, 145, 146, 149 ASL 120, 121, 140, 220, 221 CHIN 120, 121, 220, 221, 250, 251 ENGL 122, 201, 202, 214, 217, 221, 222, 231, 232, 270, 271 FREN 120, 121, 220, 221, 250, 251 HIST 100, 101, 105, 106 HUM 110, 115, 116, 120, 140, 155 ITAL 120, 121, 220 NAKY 120, 121, 220 PHIL 110, 115, 117, 140, 160, 170 RELG 120, 130, 160, 170 SPAN 120, 121, 220, 221, 250, 251

Fine Arts

ART 100, 120, 121, 124, 125, 129, 135, 140, 141, 143, 144, 145, 146, 148, 220, 221, 222, 224, 225, 230, 231, 232, 233, 235, 236, 241, 242 MUS 110, 111, 115, 116, 117 THTR 110

GENERAL STUDIES: LIFELONG HEALTH, WELL-BEING AND SELF DEVELOPMENT

The Associate Degree in General Studies with an Area of Emphasis provides an opportunity for students to design a program of study meaningful and appropriate to their own needs and academic interests. The degree includes general education and a focused area of study. Students may choose to earn this degree for preparation for employment or for personal development.

REQUIREMENTS

To meet the General Studies degree requirements, a student must complete the following:

I. AS or AA General Education Requirements (see Degree Requirements and Transfer Information section)

AND

II. Areas of Emphasis

Choose a minimum of 18 units from one Area of Emphasis:

- A. Business and Technology
- B. Communication and Language Arts
- C. Humanities and Fine Arts
- D. Lifelong Health, Well-Being and Self- Development
- E. Science and Mathematics
- F. Social and Behavioral Sciences

The Associate in Arts in General Studies with an Emphasis in Lifelong Health, Well-Being and Self-Development will be awarded to students upon completion of general education degree requirements and 18 units in this area. These courses focus on the improvement of health and well-being and are designed to provide knowledge and tools of how to obtain optimal physical, psychological and emotional health and well-being throughout the lifespan. Potential entry-level positions of employment that students will be prepared for upon completion include those in recreation, education, and health fields. Students must take a minimum of three units in Health, three units in Exercise Science, three units in Nutrition, and three units in Self-Development. The remaining six units may be taken from any category. A maximum of one course may be earned from any combination of ES 206, 209, 213, 218, 224, 227, 230 and 249.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate an understanding of optimal health and fitness in daily life through informed decision-making.
- Describe basic principles of nutrition.
- Value the importance of physical activity through the lifespan.

Health

BIO 115 HED 105, 120, 201, 202, 203, 204, 251

Exercise Science

ES 206, 209, 213, 218, 224, 227, 230, 248, 249, 250, 253, 255, 270, 271, 272, 273

Nutrition NUTR 155, 158, 255

Self-Development

COUN 110, 120, 130, 140, 150

ORNAMENTAL HORTICULTURE

I. ARBORICULTURE Associate in Science Degree

This major encompasses urban forestry, professional tree care, and tree trimming. Students will learn care and pruning of landscape trees, palms and related plants as well as common fruit trees. Course work includes skill development in tree climbing and pruning techniques, basic tree maintenance, and principles of urban forestry. Graduates are employed by private tree care companies, public agencies, landscape contractors, wholesale and retail nurseries, or may be self-employed.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Describe proper and safe principles and practices of tree climbing.
- Describe the principles of tree biology and physiology for growth management.
- Demonstrate proper tree pruning procedures per industry standards.
- Identify common biotic and abiotic problems for trees common to Southern California landscapes and list appropriate control
 measures.
- Conduct a visual tree assessment for tree risk or value appraisal.
- Draft a tree preservation plan for a construction site.

Associate in Science Degree Requirements:

Course	Title	Units
OH 120	Fundamentals of Ornamental Horticulture	3
OH 130	Plant Pest Control	3
OH 140	Soils	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 260	Arboriculture	3
OH 290*	Cooperative Work Experience Education	<u>3</u> 18
Select two of the fo	ollowing:	
OH 263	Urban Forestry	1
OH 264	Safe Work Practices in Tree Climbing and Arboriculture	1
OH 266	Science in Practice for Arboriculture	<u>_1</u> _2
Select one of the fo	ollowing:	
BUS 110	Introduction to Business	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 125	Business Law: Legal Environment of Business	<u>3</u> 3
Select nine units fr	om the following:	
OH 102	Xeriscape: Water Conservation in the Landscape	2
OH 172	Introduction to Landscape Design	3
OH 174	Turf and Ground Cover Management	3
OH 221	Landscape Construction: Irrigation and Carpentry	3
OH 235	Principles of Landscape Irrigation	4
OH 250	Landscape Water Management	2
OH 255	Sustainable Urban Landscapes Principles and Practices	2
OH 275	Diagnosing Horticultural Problems	3
OH 278	Business Management for Ornamental Horticulture	
SPAN 120	Spanish I	<u>5</u>
		9
	Total Required	32
	Plus General Education Requirements	

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Arboriculture. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

II. FLORAL DESIGN Associate in Science Degree

This degree program is designed for those individuals seeking careers in the floral industry, or for those seeking to upgrade their existing skills and prepare for further training. Course work is directed toward skills, concepts and practices used in the commercial floral industry with an emphasis in hands-on training. There is also an emphasis on the business skills needed to succeed as a floral industry entrepreneur.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify and explain the principles and elements of design common to the retail floral industry and utilize these guidelines in the reproduction and construction of independent floral arrangements, events and décor.
- Identify, evaluate and discuss in correct industry vocabulary fresh floral product and permanent botanical materials, hard goods, and trends in European and Asian design influence.
- Prepare an original event proposal based on site analysis for a special occasion to include an appropriate wholesale budget, estimate design recipes, fresh and hard goods product.
- Compare and contrast retail florist businesses in shop operations, workstations, sales and consultation areas, visual displays, customer relations, and typical business practices including labor relations, insurance, advertising, accounting and license requirements.

Associate in Science Degree Requirements:

Associate in selen	te begree nequirements:	
Course	Title	Units
OH 114	Floral Design I	3
OH 116	Floral Design II	3
OH 117	Wedding Design I	3
OH 118	Special Occasion Floral Design	3
OH 120	Fundamentals of Ornamental Horticulture	3
OH 180	Plant Materials: Annuals and Perennials	3
OH 290*	Cooperative Work Experience Education	3
		21
Select one of the f	following:	

Select one of the following:BUS 110Introduction to BusinessBUS 111Entrepreneurship: Starting and Developing a BusinessBUS 125Business Law: Legal Environment of Business

Select nine units from the following

Select nine units fro	om the following:	
ART 120	Two-Dimensional Design	3
ART 124	Drawing I	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 128	Business Communication	3
OH 121	Plant Propagation	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 240	Greenhouse Plant Production	3
OH 278	Business Management for Ornamental Horticulture	3
		9
	Total Required	33
	Plus General Education Requirements	

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Floral Design. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

3

3

3 3

III. GOLF COURSE AND SPORTS TURF MANAGEMENT Associate in Science Degree

Students in this major pursue careers as golf course superintendents or sports turf managers. The program is intended for those individuals wishing to enter the field as well as those who desire to upgrade their existing skills. Students may also transfer to a four-year degree program in agronomy, turf management, or related field. Course work is designed to study environmentally sound solutions for the efficient production and management of golf and sports turf.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate and practice standardized safety procedures as they apply to golf and sports turf management.
- Identify warm and cool season turf cultivars common to Southern California.
- Identify and manage primary and secondary noxious weeds.
- Identify and manage common biotic and abiotic problems associated with turf management in Southern California.
- Demonstrate knowledge of appropriate use and maintenance of equipment common to golf and sports turf management.
- Identify 88 trees and shrubs common to Southern California.
- Identify water quality impact on turfgrass and plant material species and the relationship to soil conditions.
- Demonstrate the impact of various water sources on golf course maintenance budgets.
- Using principles of irrigation hydraulics, calculate friction loss in pipe, determine proper pipe sizing using the friction factor and velocity limit method, and determine appropriate component sizing.
- Identify and describe the proper installation of irrigation system components.
- Using standard industry practices, develop guidelines and demonstrate the ability to perform proper fertilizing, pruning, mulch application and irrigation of Southern California landscapes.
- Identify and explain labor relations, business plans, and licensure requirements for the golf and sports turf industry.
- Demonstrate the ability to install concrete, masonry and plant material.

Associate in Science Degree Requirements:

Course	Title	Units
OH 120	Fundamentals of Ornamental Horticulture	3
OH 130	Plant Pest Control	3
OH 140	Soils	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 174	Turf and Ground Cover Management	3
OH 235	Principles of Landscape Irrigation	4
OH 290*	Cooperative Work Experience Education	3
	Total Required	22
Select one of the fo	ollowing:	
BUS 110	Introduction to Business	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 125	Business Law: Legal Environment of Business	3
		3
Select seven units	from the following:	
OH 102	Xeriscape: Water Conservation in the Landscape	2
OH 220	Landscape Construction: Concrete and Masonry	3
OH 221	Landscape Construction: Irrigation and Carpentry	3
OH 250	Landscape Water Management	2
OH 265	Golf Course and Sports Turf Management	3
OH 275	Diagnosing Horticultural Problems	3
OH 278	Business Management for Ornamental Horticulture	3
SPAN 120	Spanish I	5
		7
	Total Required	32
	Plus General Education Requirements as listed below	

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Golf Course and Sports Turf Management. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

IV. IRRIGATION TECHNOLOGY Associate in Science Degree

This specialized field focuses on the design, installation and management of landscape irrigation systems. The program is designed for entry level students, those seeking to upgrade existing skills, or those wishing to transfer to a four-year degree program at Cal Poly or other institution. The use of current design theory, installation techniques, and management programs form the heart of the curriculum. Graduates are employed by landscape architects, irrigation consultants, landscape contractors, public agencies or may be self-employed.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Explain the relationships between plants and their soil and water environment including the use of recycled water.
- Demonstrate an understanding of landscape irrigation hydraulics.
- Identify irrigation system components and demonstrate their proper installation.
- Demonstrate a basic understanding of irrigation design principles.
- Demonstrate the ability to calculate an irrigation schedule.
- Demonstrate the ability to diagnose irrigation system problems related to valves, wiring and hydraulics.
- Explain the importance of, and best practices for, water conservation in regards to water sources, water quality and regulations.
- Gain practical experience working in the landscape industry.

Associate in Science Degree Requirements: Course Title OH 102 Xeriscape: Water Conservation in the Landscape OH 120 **Fundamentals of Ornamental Horticulture** OH 140 Soils OH 221 Landscape Construction: Irrigation and Carpentry OH 235 Principles of Landscape Irrigation OH 250 Landscape Water Management OH 290* **Cooperative Work Experience Education**

Select one of the following:

beleet one of the following.	
BUS 110	Introduction to Business
BUS 111	Entrepreneurship: Starting and Developing a Business
BUS 125	Business Law: Legal Environment of Business

Select nine units from the following:

Select nine units from	the following:	
OH 130	Plant Pest Control	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 171	Landscape Drafting	1
OH 172	Introduction to Landscape Design	3
OH 174	Turf and Ground Cover Management	3
OH/CADD 200**	Introduction to Computer-Aided Landscape Design	3
OH 225	Landscape Contracting	3
OH 238	Irrigation System Design	3
OH 278	Business Management for Ornamental Horticulture	3
SPAN 120	Spanish I	5
		9
	Total Required	32

Plus General Education Requirements

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

**May also be offered at Southwestern College as LA 200.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Irrigation Technology. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

Units

2

3

3

3

4 2

<u>3</u> 20

VI. LANDSCAPE TECHNOLOGY Associate in Science Degree

Landscape installation and management forms the focus of this program. Students will learn the latest methods, materials and techniques in the landscape industry. Those seeking careers in landscape technology are entering a challenging career field that requires knowledge of plant material, turfgrass, landscape and irrigation design, soils, pest control and landscape construction. A professional in the field has the opportunity to be involved in working with people as well as plants as the manager must direct and supervise employees, deal with clients and suppliers, and may become involved in professional organizations. Students entering the landscape industry, those already employed but seeking to upgrade their skills, and those wishing to transfer to Cal Poly or other four-year degree programs will benefit from the curriculum. Graduates are employed by landscape contractors, public agencies or may be self-employed.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Understand the principles of plant structure function and plant growth.
- Identify 175 trees, shrubs, annuals, perennials and turf grass species commonly used in Southern California landscapes.
- Using standard industry practices, develop guidelines and demonstrate the ability to perform proper fertilizing, pruning, mulch
- application and irrigation of Southern California landscapes.
- Understand the elements of water management of a large landscape site.
- Identify common biotic and abiotic problems common to Southern California landscapes and list appropriate control measures.
- Gain practical experience working in the landscape industry.

Associate in Science Degree Requirements:

Associate in Science	ce begree nequirements.	
Course	Title	Units
OH 120	Fundamentals of Ornamental Horticulture	3
OH 130	Plant Pest Control	3
OH 140	Soils	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 180	Plant Materials: Annuals and Perennials	3
OH 235	Principles of Landscape Irrigation	4
OH 250	Landscape Water Management	2
OH 290*	Cooperative Work Experience Education	3
		24

Select one of the following:

BUS 110	Introduction to Business	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 125	Business Law: Legal Environment of Business	<u>3</u>
		3

Select five units from the following:

Select live units inc	in the following.	
OH 102	Xeriscape: Water Conservation in the Landscape	2
OH 105	Edibles in Urban Landscapes	1.5
OH 125	Landscape Technician Principles 1	1
OH 126	Landscape Technician Principles 2	
OH 127	Landscape Technician Principles 3	1
OH 172	Introduction to Landscape Design	3
OH 173	Intermediate Landscape Design	3
OH 174	Turf and Ground Cover Management	3
OH 220	Landscape Construction: Concrete and Masonry	3
OH 221	Landscape Construction: Irrigation and Carpentry	3
OH 222	Japanese Garden Design and Construction	1
OH 225	Landscape Contracting	3
OH 255	Sustainable Urban Landscapes Principles and Practices	2
OH 260	Arboriculture	3
OH 275	Diagnosing Horticultural Problems	3
OH 276	Horticultural Equipment Repair and Maintenance	3
OH 278	Business Management for Ornamental Horticulture	3
SPAN 120	Spanish I	5
		5-5.5
	Total Required	32-32.5
	Plus General Education Requirements	

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Landscape Technology. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

VII. NURSERY TECHNOLOGY Associate in Science Degree

Students enrolled in this major pursue careers in the wholesale production and retail sales of horticultural crops. Course work will focus on plant propagation, greenhouse plant production, and horticultural practices related to production and sales of landscape and greenhouse plant material. Students entering the nursery industry, those already employed but seeking upgraded skills, and those wishing to transfer to Cal Poly or other four-year degree programs will benefit from the curriculum. Graduates are employed by wholesale and retail nurseries, public agencies or may be self-employed.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify 250 trees, shrubs, annuals, perennials and turf grass species commonly used in Southern California landscapes.
- Explain the principles of plant structure function and plant growth.
- Demonstrate an understanding of common plant propagation practices.
- Cultivate horticultural crops in both natural and artificial environments common in the horticulture industry.
- Demonstrate an understanding of soil principles.
- Explain how to produce a business plan for the nursery industry.
- Gain practical experience working in the landscape industry.

Associate in Science Degree Requirements:

Course	Title	Units
OH 120	Fundamentals of Ornamental Horticulture	3
OH 121	Plant Propagation	3
OH 130	Plant Pest Control	3
OH 140	Soils	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 180	Plant Materials: Annuals and Perennials	3
OH 290*	Cooperative Work Experience Education	3
		21
Select one of the f	ollowing:	
BUS 110	Introduction to Business	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 125	Business Law: Legal Environment of Business	3
		3
C	the full states	

Select eight units fr	rom the following:	
BIO 122	The Secret Life of Plants	4
OH 102	Xeriscape: Water Conservation in the Landscape	2
OH 114	Floral Design I	3
OH 172	Introduction to Landscape Design	3
OH 240	Greenhouse Plant Production	3
OH 278	Business Management for Ornamental Horticulture	3
SPAN 120	Spanish I	<u>5</u> 8-9
	Total Required	32-33
	Plus General Education Requirements	

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Nursery Technology. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

VIII. SUSTAINABLE URBAN LANDSCAPES Associate in Science Degree

This curriculum is designed to investigate the current trends and provide practical experience in sustainable landscape design, construction and maintenance. Students will use technology, materials and methods that enhance the urban landscape with minimal input of labor and materials while reducing negative environmental impacts. Students entering the landscape industry, those already employed but seeking upgraded skills, and those wishing to transfer to four-year degree programs will benefit from the curriculum. Graduates are employed by landscape contractors, landscape architects and designers, public agencies, or are self-employed.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Use industry accepted standards to conduct site evaluations and determine site assets and constraints for the development of aesthetically pleasing and sustainable landscapes.
- Identify common biotic and abiotic problems common to Southern California landscapes and list appropriate control measures.
- Utilize standard industry practices and principles of plant structure, function and plant growth to develop guidelines for the proper maintenance of Southern California landscapes.
- Demonstrate the ability to calculate an irrigation schedule.
- Explain the elements of water management of a large landscape site.
- Gain practical experience working in the landscape industry.

CAREER OPPORTUNITIES

Irrigation Manager Landscape Design Consultant Landscape Maintenance Supervisor Landscape Manager Landscape Water Auditor Water Conservation Specialist

Associate in Science Degree Requirements:

Course	Title	Units
OH 120	Fundamentals of Ornamental Horticulture	3
OH 130	Plant Pest Control	3
OH 140	Soils	3
OH 170	Plant Materials: Trees and Shrubs	3
OH 250	Landscape Water Management	2
OH 255	Sustainable Urban Landscape Principles and Practices	2
OH 263	Urban Forestry	1
OH 290*	Cooperative Work Experience Education	3
		20
Select one of the	following:	
BUS 110	Introduction to Business	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 125	Business Law: Legal Environment of Business	
		3
Select a minimum	n of eight units from the following:	
OH 102	Xeriscape: Water Conservation in the Landscape	2
OH 105	Edibles in Urban Landscapes	1.5
OH 172	Introduction to Landscape Design	3
OH 180	Plant Materials: Annuals and Perennials	3
OH 220	Landscape Construction: Concrete and Masonry	3
OH 221	Landscape Construction: Irrigation and Carpentry	3
OH 235	Principles of Landscape Irrigation	4
OH 260	Arboriculture	3
OH 266	Science in Practice for Arboriculture	1
OH 278	Business Management for Ornamental Horticulture	<u>3</u>
		8

Total Required Plus General Education Requirements

*Student must complete six units within the major at Cuyamaca College to be eligible for this course.

Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Sustainable Urban Landscapes. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

31-31.5

BASIC ORNAMENTAL HORTICULTURE Certificate of Specialization

This certificate prepares students to work in the horticulture industry at an entry or intermediate level by providing them with basic knowledge of horticultural principles and practices. Upon completion, students will be prepared to work in one of many fields of horticulture, or choose to continue their studies and apply their earned credits to a degree or certificate of achievement.

Program Learning Outcomes

Upon successful completion of this certificate, students will be able to:

- Understand the basic principles of plant growth.
- Identify 125 trees and shrub species commonly used in Southern California landscapes.
- Understand the basic principles of soil science as they relate to plant growth and plant nutrition.
- Apply basic horticultural knowledge to specific field of study in ornamental horticulture.
- Understand business principles as they apply to working in ornamental horticulture.

Certificate Requirements:

<i>Course</i> OH 120 OH 170	<i>Title</i> Fundamentals of Ornamental Horticulture Plant Materials: Trees and Shrubs	Units 3 6
Select one of the f OH 130	ollowing: Plant Pest Control	3
OH 140 OH 180	Soils Plant Materials: Annuals and Perennials	3 3 3
Select one of the f	ollowing:	
BUS 110	Introduction to Business	3
BUS 111	Entrepreneurship: Starting and Developing a Business	3
BUS 125	Business Law: Legal Environment of Business	_ <u>3</u> 3
Select at least thre	ee units from the following:	
OH 114	Floral Design I	3
OH 121	Plant Propagation	3
OH 125	Landscape Technician Principles 1	
OH 126	Landscape Technician Principles 2	1
OH 127	Landscape Technician Principles 3	1
OH 172	Introduction to Landscape Design	3
OH 174	Turf and Ground Cover Management	3
OH 220	Landscape Construction: Concrete and Masonry	3
OH 221	Landscape Construction: Irrigation and Carpentry	3
UH 260	Arbonculture	
	Total Required	3 15

Students who complete the requirements above qualify for a Certificate in Basic Ornamental Horticulture. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.

PARALEGAL STUDIES Associate in Science Degree

The legal profession has evolved, like the medical profession, into a profession of specialties. Based on this development, lawyers need qualified assistants to better help them provide legal services to their clients. Paralegals are trained, professional technicians able to provide this needed legal assistance.

This degree program is specifically designed to prepare and provide students with the analytical skills and written abilities necessary to assist attorneys in the practice of law. The technical curriculum goals and objectives emphasize three primary areas:

1. Legal Research, Analysis and Writing

- 2. Ethics and the Mechanics of Law
- 3. Integration of Substantive and Procedural Law

The successful paralegal degree candidate will possess a broad educational background with an opportunity to gain specialized skills in specific areas of law. The large curriculum offering also allows practicing paralegals to attend college refresher or new skills development courses.

This program does not prepare students for law school or the practice of law. Please note: Paralegals may not provide legal services directly to the public, except as permitted by law.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply the research, analytical skills and college-level writing abilities necessary to assist attorneys in the practice of law.
- Conduct oneself in an ethical and professional manner when confronted with a law office related conflict scenario.

CAREER OPPORTUNITIES

Claim Examiner Compensation and Benefits Manager Compliance and Enforcement Inspector

- Contract Consultant
 Forms and Procedures Specialist
 Freelance Paralegal
- * Labor Relations Specialist Law Clerk Legal Aide Legal Assistant Legal Research Assistant Legal Technician

Occupational Safety and Health Worker + Paralegal Patent Agent Title Examiner

* Bachelor Degree or higher required

+ Bachelor Degree normally recommended

It is recommended that incoming students complete C grade or higher in ESL 2B or placement into ENGL 120 or equivalent prior to taking any Paralegal Studies classes.

Associate in Science Degree Requirements:

Course	Title	Units
BOT 120-121	Comprehensive Word Levels I–II	2
BOT 122	Comprehensive Word, Level III	1
or		
BOT 151	Using Microsoft Outlook	1
or		
BOT 115	Essential Excel	1
BUS 125	Business Law: Legal Environment of Business	3
PARA 100	Introduction to Paralegal Studies	3
PARA 110	Civil Litigation Practice and Procedures	3
PARA 130	Legal Research and Writing	3
PARA 132	Computer Assisted Legal Research (CALR)	3
PARA 135	Bankruptcy Law	<u>3</u>
		21
Salact at least six up	its from the following:	

PARA 120Introduction to Administrative LawPARA 121Social Security Law – Practice and ProcedurePARA 125Business Organizations	Jelett at least six u	into in the following.	
PARA 121Social Security Law – Practice and ProcedurePARA 125Business Organizations	PARA 120	Introduction to Administrative Law	3 2
PARA 125 Business Organizations	PARA 121	Social Security Law – Practice and Procedure	1
	PARA 125	Business Organizations	1

(Paralegal Studies continued)

PARA 140	Criminal Law and Procedures	3
PARA 145	Estate Planning and Administration of Estates	3 2
PARA 146	Probate and Administration of Estates	1
PARA 150	Family Law (Divorce, Separation, Nullity, and Paternity)	3 2
PARA 151	Family Law (Custody, Visitation, and Support)	1
PARA 160	Personal Injury	1
PARA 170	Worker's Compensation	1
PARA 175	Electronic Discovery: Practice and Procedure	1
PARA 250*	Internship	1-3
		6
	Total Required	27
	Plus General Education Requirements	

*Student must complete 18 units within the major to be eligible for this course.

Recommended Elective: BUS 128

GENERAL EDUCATION REQUIREMENTS FOR THE PARALEGAL STUDIES DEGREE: AREA A-LANGUAGE AND RATIONALITY

(Minimum of 6 semester units) One course from each area:

1. Written Communication

ENGL 120

2. Oral Communication and Analytical Thinking

COMM 120, 122, 130, 137, 145 ENGR 100 MATH 110, 120, 125, 160, 170, 175, 176, 178, 180, 245, 280, 281, 284 PHIL 125, 130 PSY 215

AREA B-NATURAL SCIENCES

(Minimum of 4 semester units) A course that includes a laboratory (laboratory courses are underlined):

ANTH 130 ASTR 110, <u>112</u> BIO 112, 115, <u>122</u>, 130, <u>131</u>, <u>140</u>, <u>152</u>, <u>230</u>, <u>240</u> CHEM <u>102</u>, <u>115*</u>, <u>116</u>, <u>120*</u>, <u>141</u> GEOG 120, <u>121</u> GEOL 104, 110, <u>111</u> OCEA 112, <u>113</u> PHYC <u>110</u>, <u>130</u>, <u>131</u>, <u>190</u>, <u>200</u>, <u>210</u>

*Students will not receive credit for more than one of the following courses: CHEM 115, 120. **AREA C-HUMANITIES** (Minimum of 3 semester units) One of the following courses:

ARAM 120, 121, 220 ARBC 120, 121, 145, 220, 221, 250, 251 ART 100, 120, 124, 129, 140, 141, 143, 144, 145, 146, 148 ASL 120, 121, 140, 220, 221 ENGL 122, 201, 202, 214, 217, 221, 222, 231, 232, 270, 271 FREN 120, 121, 220, 221, 250, 251 HIST 100, 101, 105, 106 HUM 110, 115, 116, 120, 140, 155 ITAL 120, 121, 220 MUS 110, 111, 115, 116, 117 NAKY 120, 121, 220 PHIL 110, 115, 117, 140, 160, 170 RELG 120, 130, 160, 170 SPAN 120, 121, 141, 145, 220, 221, 250, 251 THTR 110 (Paralegal Studies continued)

AREA D-SOCIAL AND BEHAVIORAL SCIENCES

(Minimum of 3 semester units) One of the following courses:

ANTH 120 CD 115, 125, 131, 145 COMM 110, 124 ECON 110, 120, 121 GEOG 106, 130 HED 120, 201 HIST 108, 109, 118, 119, 122, 123, 124, 130, 131, 132, 133, 180, 181 POSC 120, 121, 124, 130, 140 PSY 120, 125, 134, 138, 140, 150, 170, 220 SOC 120, 125, 130

ADDITIONAL REQUIREMENTS:

(Minimum 6 semester units) Two additional courses from two different areas:

- Area B Natural Sciences
- Area C Humanities
- Area D Social and Behavioral Sciences

DEGREE REQUIREMENTS:

Cuyamaca College will confer the Degree of Associate in Science in Paralegal Studies upon students who successfully complete the following requirements:

- 1. A minimum of 60 semester units of college work.
- 2. Competency Requirements
 - A. Completion of ENGL 120 with a grade of "C" or better or "P"*.
 - B. Completion of MATH 110 or a higher numbered mathematics class, or a statistics course from another discipline that has intermediate algebra as a prerequisite, with a grade of "C" or better or a grade of "P"* or completion of assessment placing into a class higher than MATH 110.
- 3. Exercise Science Degree Requirements

Two activity courses in exercise science are required for graduation from Cuyamaca College. These courses are marked with an asterisk in the Course Descriptions section.

- A. If medical reasons necessitate exclusion from exercise science, a medical statement must be on file with the Admissions and Records Office. Adaptive exercise science classes are available.
- B. Veterans who have completed at least one year of honorable active service will receive up to three units of credit for exercise science which will satisfy the activity requirement for graduation. To receive credit for military service, a DD-214 and appropriate military records must be submitted to the Admissions and Records Office.
- 4. Achievement of a "C" average (2.0 GPA) in all college work counted toward general education requirements.
- 5. Achievement of a "C" grade or better in all courses counted toward the major. (P/NP grading not accepted for the major.)
- 6. A maximum of 12 "P"* semester units taken in regular course work at this institution may be counted toward the 60 semester units required for graduation but shall not be included as part of the requirements for the major.
- 7. A minimum of 12 semester units of Legal Specialty courses must be completed at Cuyamaca College.

*A grade of "P" (Pass) represents a "C" grade or better.

For more information regarding degree requirements, see Degree Requirements and Transfer Information section.

POLITICAL SCIENCE FOR TRANSFER (AA-T)

The AA-T in Political Science for Transfer is designed to prepare students to transfer to a California State University (CSU) with the intent of earning a Bachelor of Arts degree in Political Science. Students who earn the AA T in Political Science will know about various forms of governments and governmental institutions, political parties, current public affairs, interest groups and international politics. They will understand the role of the citizen and the democratic process, and have knowledge of the history and evolution of various forms of government. Future careers include those in government service, public administration, international organizations or corporations, law, or teaching.

The following is required for the AA-T in Political Science for Transfer degree:

- 1. Minimum of 60 semester or 90 quarter CSU-transferable units.
- 2. Minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework.
- 3. Minimum of 18 semester or 27 quarter units in the major.
- 4. A grade of "C" or better in all courses required for the major.
- 5. Certified completion of the California State University General Education (CSU GE) Breadth pattern OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern; see Degree Requirements and Transfer Information section for more information. Note: If following IGETC, IGETC-CSU must be followed for admission to a CSU.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Remember the major concepts of subfields of political science and their relevance to political behavior and political institutions across
 diverse communities and cultures.
- Understand the historical roots and major theories, conceptualizations, operationalizations, and measurements utilized in political science and its subfields from multiple perspectives.
- Apply the scientific method to explain political behavior and political institutions.
- Analyze the application of political science's abstract theories, empirical regularities, and public policy applications towards civic engagement domestically and internationally.
- Evaluate how concepts of political actors, networks, and status quo are theoretically and empirically analyzed and their application across diverse communities and cultures.
- Create a professional research project that uses the scientific method and follows ethical guidelines to analyze political phenomenon and/or a public policy project that utilizes data, geographic information systems, policy, and communication analysts' perspectives.
- Discuss major theories and concepts of political science.
- Analyze political issues and formulate solutions.
- Participate knowledgeably as a U.S. citizen in civic-oriented environments.
- Demonstrate an understanding of U.S. and world politics.
- Comprehend enduring political thoughts and ideas throughout history.

Career Opportunities:

Students who earn an AA-T in Political Science from Cuyamaca College will be prepared for entry level positions such as a:

- <u>Staff member to an elected official: local (City Councilor or Mayor), state (i.e. Statewide constitutional official, State Senator, State Assembly Member), or federal (i.e. U.S. Senator or Member of Congress)</u>
- Staff member to an appointed official: local (i.e. City Manager or County Chief Executive Officer), regional (i.e. San Diego Association of Governments), or state (i.e. California State Water Resources Control Board Commissioner)Staff member in public, private, or nonprofit sector's external affairs, government affairs, or regulatory affairs department
- Intern with an international government or non-governmental organization or institution
- <u>Research assistant to a professor at a 4-year university, or a researcher at a public policy think tank, or in an institutional research</u> <u>department</u>

Associate in Arts Degree Requirements:

core curriculum.		
Course	Title	Units
POSC 121	Introduction to U.S. Government and Politics	3
List A: Select three	e of the following:	
POSC 120	Introduction to Politics and Political Analysis	3
POSC 124	Introduction to Comparative Government and Politics	3
POSC 130	Introduction to International Relations	3
POSC 170	Introduction to Political Science Research Methods	3
MATH 160	Elementary Statistics	4
		
PSY 215	Statistics for the Behavioral Sciences	4
		0.10

List B: Select two of the following:

HIST 108	Early American History*	3
HIST 109	Modern American History*	3
POSC 140	Introduction to California Governments and Politics	3
MATH 160	Elementary Statistics	4
or		
PSY 215	Statistics for the Behavioral Sciences	4

	6-7
Total Units for Major (9 -12 units may be double-counted with GE)	18-19
Total Units for CSU GE Breadth or IGETC-CSU	37- 39-37
Total Transferable Elective Units	2 5<u>11-12/13-14</u>
Total Units for Degree	60

*One course, HIST 108 or 109, meets CSU American Ideals requirement, along with Core of POSC 121. Please note: SDSU accepts this degree for students transferring into Political Science B.A.

UNIVERSITY STUDIES: HUMANITIES AND FINE ARTS

The Associate Degree in University Studies with an Area of Emphasis is intended to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each four-year transfer institution, courses used to complete this degree should be selected with the assistance of a counselor. The completion of the University Studies Degree does not guarantee acceptance into either a baccalaureate major or a four-year institution.

REQUIREMENTS:

I. California State University (CSU) General Education Breadth

- 1. Complete CSU General Education Breadth (see Degree Requirements and Transfer Information section).
- 2. Earn a grade of "C" or better in 30 of the required 39 semester units of general education to include all courses in Area A and the Mathematical/Quantitative Reasoning courses in Area B.
- 3. Credit earned through external examinations, i.e., AP, will be applied towards general education in accordance with Cuyamaca College policies. Please note: This may be different than how the external exam is used on a CSU certification.
- 4. Complete a minimum of 18 units in an Area of Emphasis (listed below).
- 5. Complete a minimum of 60 degree applicable CSU transferable semester units.
- 6. Earn a cumulative GPA of 2.0 in all college course work completed.
- 7. Meet Cuyamaca College residence requirements for graduation (see Admission Information).

OR

II. Intersegmental General Education Transfer Curriculum (IGETC) for CSU or UC

- 1. Complete IGETC Certification (see Degree Requirements and Transfer Information section.
- 2. Earn a grade of "C" or better in all IGETC courses.
- 3. Credit earned through external examinations, i.e., AP, will be applied in accordance with Cuyamaca College policies. Please note: This may be different than how the external exam is used on an IGETC certification.
- 4. Complete a minimum of 18 units in an Area of Emphasis (listed below).
- 5. Complete a minimum of 60 degree applicable UC transferable semester units for UC University Studies.
- 6. Earn a cumulative GPA of 2.0 in all college course work completed.
- 7. Meet Cuyamaca College residence requirements for graduation (see Admission Information).

AND

III. Area of Emphasis

- A. Business and Economics
- **B.** Communication and Language Arts
- C. Humanities and Fine Arts
- D. Science and Mathematics
- E. Social and Behavioral Sciences

While 18 units are required in a specific area to meet the requirements of the degree, it is strongly recommended that as many lower division preparation for the major courses as possible be completed at the community college prior to transfer. Some baccalaureate majors and four-year institutions require a higher GPA than is necessary for the associate degree. Courses that are not UC-transferable will not be used in the UC University Studies Area of Emphasis Degrees. Completion of the University Studies degree does not guarantee admission to a four-year institution.

Courses for the Associate in Arts in University Studies with an Emphasi in Humanities and Fine Arts focus on the study of cultural, humanistic activities, and artistic expression of human beings. Students will evaluate and interpret the ways in which people through the ages in different cultures have responded to themselves and the world around them through artistic and cultural creation. Students will develop an aesthetic awareness and incorporate these concepts when constructing value judgments.Students completing this area may be interested in the following baccalaureate majors: art, humanities, music, philosophy, religious studies, and theatre arts. Students must complete a minimum of six units in Humanities and six units in Fine Arts. The remaining six units may be taken from either category.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze the principle elements of representative examples of art, architecture, literature, theater, philosophy, music, dance, film, or other relevant areas of cultural and/or intellectual creativity.
- Demonstrate an awareness of the historical and philosophical contexts of representative areas, movements, media, works, or styles of cultural and/or intellectual creativity.
- Employ the language, concepts and methods of interpretive criticism as applicable to the respective categories of human creativity.
- When applicable, apply artistic processes and skills as a creative expression, using a variety of media to communicate meaning and intent in original works of art.

Humanities

ARAM 120, 121, 220 ARBC 120, 121, 122, 123, 220, 221, 254 ART 140, 141, 143, 145, 146, 149 ASL 120, 121, 140, 220, 221 CHIN 120, 121, 220, 221, 250, 251 ENGL 122, 201, 202, 214, 217, 221, 222, 231, 232, 270, 271 FREN 120, 121, 220, 221 HIST 100, 101, 105, 106 HUM 110, 115, 116, 120, 140, 155 ITAL 120, 121, 220 NAKY 120, 121, 220 PHIL 110, 115, 117, 140, 160, 170 RELG 120, 130, 160, 170 SPAN 120, 121, 141, 145*, 220, 221, 250, 251

Fine Arts

ART 100, 120, 124, 125, 129, 140, 141, 143, 144, 145, 146, 148*, 241, 242 MUS 110, 111, 115, 116, 117 THTR 110 * Course not UC transferable