

# PROGRAMS, CERTIFICATES & DEGREES



## Programs, Certificates, & Degrees

Listed below are Job Skills Certificates (JSC), Certificates of Achievement (CA), Associate in Arts (AA), Associate in Science (AS), and Associate in Arts for Transfer (AA-T) which Bakersfield College currently offers. Suggested courses of study that may be found in the catalog are indicated by (JSC), (CA), (AA), (AS) or (AA-T). An asterisk (\*) indicates that the student must consult the appropriate department chair for further information. Job Skills Certificates (less than 18 units) document the satisfactory completion of training in a specific area of study. Certificates of Achievement (18 units of study or more) are awarded for the completion of a formal instructional program which is designed to give the learner skills, knowledge, and attitudes for a specific field or endeavor.

To apply for any certificate, students must have earned at least three credits of the courses required for the certificate at Bakersfield College. Upon completion of the requirements for a certificate, the student contacts the academic department to complete an application for a Certificate of Achievement or a Job Skills Certificate. Certificates are issued by the department 6-8 weeks after the receipt of the application. Only Certificates of Achievement will be posted to transcripts.

## Legend

Job Skills Certificates (JSC)  
 Certificates of Achievement (CA)  
 Associate in Arts (AA)  
 Associate in Science (AS)  
 Associate in Arts for Transfer (AA-T)  
 Associate in Science for Transfer (AS-T)

## AGRICULTURE

- 60 Agriculture Business Management (CA)
- 60 Agriculture Business Management (AA)
- 61 Agriculture Business Management (AS)
- 61 Animal Science (CA)
- 62 Animal Science (AA)

- 62 Animal Science (AS)
- 63 Environmental Horticulture (CA)
- 63 Environmental Horticulture (AA)
- 63 Environmental Horticulture (AS)
- 64 Forestry (CA)
- 64 Forestry (AA)
- 64 Forestry (AS)
- 65 Plant Science (CA)
- 66 Plant Science - Crops Emphasis (AA)
- 66 Plant Science - Crops Emphasis (AS)
- 66 Plant Science - Horticulture Emphasis (AA)
- 67 Plant Science - Horticulture Emphasis (AS)
- 67 Pre-Veterinary Medicine Option
- 67 Registered Veterinary Technician (JSC)

## AMERICAN SIGN LANGUAGE

- 68 American Sign Language (AA)

## ANTHROPOLOGY

- 68 Anthropology (AA-T)

## APPRENTICESHIP

- 69 Apprenticeship (AA)
- 69 Apprenticeship (CA)

## ARCHITECTURE

- 69 Architectural Computer Aided Drafting (JSC)
- 70 Architectural Drafting (AA)
- 70 Architectural Drafting (AS)

## ART

- 71 Studio Arts (AA-T)

## AUTOMOTIVE

- 71 Auto Brakes and Wheel Alignment (CA)
- 72 Auto Engine Overhaul (CA)
- 72 Auto Tune-Up and Emission Systems (CA)
- 73 Automotive Heating, Ventilation & Air

- Conditioning-HVAC (JSC)  
 73 Automotive Management (JSC)  
 73 Automotive Power Trains (CA)  
 74 Basic and Advanced Clean Air Car Course (JSC)  
 74 Industrial Technology, Automotive Option (AS)

**BIOLOGY**

- 75 Biology-General Biology (AS)  
 75 Biology-Human Biology (AS)

**BUSINESS ADMINISTRATION**

- 76 Accounting (AA)  
 76 Office Assistant (JSC)  
 77 Office Assistant (CA)  
 77 Administrative Office Assistant (AA)  
 78 Bookkeeping (CA)  
 78 Business Administration (AA)  
 78 General Business (JSC)  
 79 Retail Management (CA)

**CHEMISTRY**

- 79 Chemistry (AS)

**CHILD DEVELOPMENT**

- 80 Child Development Assistant Teacher (JSC)  
 80 Child Development Associate Teacher (JSC)  
 80 Child Development Teacher (CA)  
 81 Child Development Master Teacher-Infant Toddler (CA)  
 81 Child Development Master Teacher-Special Education (CA)  
 81 Child Development and Family Relations (AS)

**COMMUNICATION**

- 82 Communication (AA-T)  
 83 Communication (CA)

**COMPUTER STUDIES**

- 83 Computer Information Systems (CA)  
 84 Computer Information Systems (AA)  
 84 Computer Information Systems (AS)  
 85 Computer Science (CA)  
 85 Computer Science (AS)  
 86 Web Development (CA)  
 87 Web Development (AS)

**CONSTRUCTION**

- 87 Construction Technology (CA)  
 88 Industrial Technology, Construction Option (AS)

**CORRECTIONAL ADMINISTRATION**

- 88 Correctional Administration (AA)

**CRIMINAL JUSTICE**

- 89 Criminal Justice (AA)

**ECONOMICS**

- 89 Economics (AA)

**ELECTRONICS TECHNOLOGY**

- 90 Electronics Technology (CA)  
 90 Electronics - Industrial Automation (JSC)  
 90 Electronics - Industrial Communication (JSC)

- 90 Electronics - Industrial Maintenance (JSC)  
 90 Electronics - Manufacturing Automation (JSC)  
 91 Industrial Technology, Electronics Option (AS)

**EMERGENCY MEDICAL TECHNICIAN**

- 92 Emergency Medical Technican (EMT-1)  
 92 Emergency Medical Technician 1 (JSC)

**ENGINEERING**

- 93 Engineering (AS)  
 93 Engineering Technology (AS)

**ENGLISH**

- 94 English (AA)

**FIRE TECHNOLOGY**

- 94 Fire Technology (CA)  
 95 Fire Technology (AA)  
 96 Fire Technology (AS)  
 96 Wildland Fire Technology (AS)  
 97 Chief Officer Certification (CA)  
 98 Fire Officer Certification (CA)

**FOODS/NUTRITION**

- 98 Child Nutrition Management (CA)  
 98 Child Nutrition Program Management Option (AS)  
 99 Culinary Arts (CA)  
 99 Culinary Arts (AS)  
 100 Dietetic Services Supervisor Program (CA)  
 100 Foodservice Management Option (AS)

**GEOLOGY**

- 101 Geology (AS-T)

**HISTORY**

- 102 History (AA)

**HUMAN SERVICES**

- 102 Human Services (JSC)  
 102 Human Services (AA)

**INDUSTRIAL DRAWING**

- 103 AutoCAD (JSC)  
 103 Industrial Drawing (AA)  
 103 Industrial Technology-Industrial Drawing Option (AS)

**INDUSTRIAL TECHNOLOGY**

- 104 Industrial Technology-General (AS)

**JOURNALISM**

- 105 Journalism (AA)

**LIBERAL ARTS**

- 105 Liberal Arts (AA)

**LIBERAL STUDIES**

- 105 Liberal Studies (AA)

**MANUFACTURING/MACHINE TECHNOLOGY**

- 107 Basic Machine Tool Operations-Lathe, Mill (JSC)  
 107 Computer Numerical Control Programming (JSC)

- 108 Manufacturing Technology (CA)
- 108 Industrial Technology-Manufacturing Technology Option (AS)

**MATHEMATICS**

- 109 Mathematics (AA)

**MUSIC**

- 109 Music (AA)

**NURSING**

- 110 Nursing (AS)
- 111 LVN to Associate Degree Nursing Program (AS)
- 113 LVN to Non-Degree Nurse (30 unit option)
- 114 Vocational Nursing Program (CA)
- 115 Nurse Assistant (JSC)

**PHILOSOPHY**

- 116 Philosophy (AA)

**PHYSICAL EDUCATION**

- 116 Physical Education (AA)

**PHYSICS**

- 117 Physics (AS-T)

**POLITICAL SCIENCE**

- 117 Political Science (AA)
- 118 Political Science-Emphasis in Domestic Policy (AA)
- 118 Political Science-Emphasis in International Relations (AA)

**PRIMARY CARE ASSOCIATE/PHYSICIAN'S ASSISTANT**

- 118 Primary Care Associate/Physician's Assistant

**PSYCHOLOGY**

- 119 Psychology (AA-T)

**RADIOLOGIC TECHNOLOGY**

- 122 Radiologic Technology (AS)
- 122 Principles of Fluoroscopy (JSC)
- 123 Principles of Venipuncture (JSC)

**SOCIOLOGY**

- 123 Sociology (AA-T)

**SPANISH**

- 124 Spanish (AA)

**THEATRE ARTS**

- 124 Theatre Arts (AA)

**WELDING**

- 124 Blueprint Reading and Layout for Welders (JSC)
- 125 Gas Metal Arc/Gas Tungsten Arc Welding/Flux Core Arc Welding (JSC)
- 125 Shielded Metal Arc Welding (JSC)
- 125 Welding (CA)
- 126 Industrial Technology, Welding Option (AS)
- 125 Welding Certification (JSC)

**WOODWORKING/CABINETMAKING**

- 126 Woodworking/Cabinetmaking (JSC)
- 127 Cabinetmaking (CA)
- 127 Industrial Technology, Woodworking and Cabinetmaking Option (AS)

Accounting (AA)	76
Administrative Office Assistant (AA)	77
Agriculture Business Management (AA)	60
Agriculture Business Management (AS)	61
Agriculture Business Management (CA)	60
American Sign Language (AA)	68
Animal Science (AA)	62
Animal Science (AS)	62
Animal Science (CA)	61
Anthropology (AA-T)	68
Apprenticeship (AA)	69
Apprenticeship (CA)	69
Architectural Computer Aided Drafting (JSC)	69
Architectural Drafting (AA)	70
Architectural Drafting (AS)	70
Auto Brakes and Wheel Alignment (CA)	71
Auto Engine Overhaul (CA)	72
Auto Tune-Up and Emission Systems (CA)	72
AutoCAD (JSC)	103
Automotive Heating, Ventilation & Air Conditioning-HVAC (JSC)	73
Automotive Management (JSC)	73
Automotive Power Trains (CA)	73
Basic and Advanced Clean Air Car Course (JSC)	74
Basic Machine Tool Operations-Lathe, Mill (JSC)	107
Biology-General Biology (AS)	75
Biology-Human Biology (AS)	75
Blueprint Reading and Layout for Welders (JSC)	124
Bookkeeping (CA)	78
Business Administration (AA)	78
Cabinetmaking (CA)	127
Chemistry (AS)	79
Chief Officer Certification (CA)	97
Child Development and Family Relations (AS)	81
Child Development Assistant Teacher (JSC)	80
Child Development Associate Teacher (JSC)	80
Child Development Master Teacher-Infant Toddler (CA)	81
Child Development Master Teacher-Special Education (CA)	81
Child Development Teacher (CA)	80
Child Nutrition Management (CA)	98
Child Nutrition Program Management Option (AS)	98
Communication (AA-T)	82
Communication (CA)	83
Computer Information Systems (AA)	84
Computer Information Systems (AS)	84
Computer Information Systems (CA)	83
Computer Numerical Control Programming (JSC)	107
Computer Science (AS)	85
Computer Science (CA)	85
Construction Technology (CA)	87
Correctional Administration (AA)	88
Criminal Justice (AA)	89
Culinary Arts (AS)	99
Culinary Arts (CA)	99
Dietetic Services Supervisor Program (CA)	100
Economics (AA)	89
Electronics - Industrial Automation (JSC)	90
Electronics - Industrial Communication (JSC)	90
Electronics - Industrial Maintenance (JSC)	90
Electronics - Manufacturing Automation (JSC)	90
Electronics Technology (CA)	90
Emergency Medical Technican (EMT-1)	92
Emergency Medical Technician 1 (JSC)	92
Engineering (AS)	93
Engineering Technology (AS)	93
English (AA)	94
Environmental Horticulture (AA)	63
Environmental Horticulture (AS)	63

Environmental Horticulture (CA) .....	63
Fire Officer Certification (CA) .....	98
Fire Technology (AA) .....	95
Fire Technology (AS) .....	96
Fire Technology (CA) .....	94
Foodservice Management Option (AS) .....	100
Forestry (AA) .....	64
Forestry (AS) .....	64
Forestry (CA) .....	64
Gas Metal Arc/Gas Tungsten Arc Welding/Flux Core Arc Welding (JSC) .....	125
General Business (JSC) .....	78
Geology (AS-T) .....	101
History (AA) .....	102
Human Services (AA) .....	102
Human Services (JSC) .....	102
Industrial Drawing (AA) .....	103
Industrial Technology, Automotive Option (AS) .....	74
Industrial Technology, Construction Option (AS) .....	88
Industrial Technology, Electronics Option (AS) .....	91
Industrial Technology, Welding Option (AS) .....	126
Industrial Technology, Woodworking and Cabinetmaking Option (AS) .....	127
Industrial Technology-General (AS) .....	104
Industrial Technology-Industrial Drawing Option (AS) .....	103
Industrial Technology-Manufacturing Technology Option (AS) .....	108
Journalism (AA) .....	105
Liberal Arts (AA) .....	105
Liberal Studies (AA) .....	105
LVN to Associate Degree Nursing Program (AS) .....	111
LVN to Non-Degree Nurse (30 unit option) .....	113
Manufacturing Technology (CA) .....	108
Mathematics (AA) .....	109
Music (AA) .....	109
Nurse Assistant (JSC) .....	115
Nursing (AS) .....	110
Office Assistant (CA) .....	77
Office Assistant (JSC) .....	76
Philosophy (AA) .....	116
Physical Education (AA) .....	116
Physics (AS-T) .....	117
Plant Science - Crops Emphasis (AA) .....	66
Plant Science - Crops Emphasis (AS) .....	66
Plant Science - Horticulture Emphasis (AA) .....	66
Plant Science - Horticulture Emphasis (AS) .....	67
Plant Science (CA) .....	65
Political Science (AA) .....	117
Political Science-Emphasis in Domestic Policy (AA) .....	118
Political Science-Emphasis in International Relations (AA) .....	118
Pre-Veterinary Medicine Option .....	67
Primary Care Associate/Physician's Assistant .....	118
Principles of Fluoroscopy (JSC) .....	122
Principles of Venipuncture (JSC) .....	123
Psychology (AA-T) .....	119
Radiologic Technology (AS) .....	122
Registered Veterinary Technician (JSC) .....	67
Retail Management (CA) .....	79
Shielded Metal Arc Welding (JSC) .....	125
Sociology (AA-T) .....	123
Spanish (AA) .....	124
Studio Arts (AA-T) .....	71
Theatre Arts (AA) .....	124
Vocational Nursing Program (CA) .....	114
Web Development (AS) .....	87
Web Development (CA) .....	86
Welding (CA) .....	125
Welding Certification (JSC) .....	125
Wildland Fire Technology (AS) .....	96
Woodworking/Cabinetmaking (JSC) .....	126



# PROGRAMS



## Agriculture

### ***Agriculture Business Management Certificate of Achievement***

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Agriculture Business Management Certificate of Achievement.

*To Transfer Coursework*

A minimum of 26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- understand economic concepts and quantitative methods.
- demonstrate critical, integrative, and evaluative thinking.
- have well-developed verbal and written communication skills that are necessary for efficient and clear dissemination of economic analysis, as well as for success in private and public sector careers.
- understand and interpret economic news and trends using economic theory and apply them to agricultural operations for employment that will enhance opportunities and success in agriculture business in the 21st century.
- demonstrate specific skills in agriculture business.
- have an understanding of the business and economics of the agricultural industry, agricultural business, and the implications to the agricultural producer, consumer, and the food system.
- have an understanding of management principles encountered in the day to day operation of an agricultural enterprise.
- understand the production and marketing disciplines needed for employment.

*Total Units: 26*

#### **Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AGBS B2	Agricultural Economics	3.0
	-or-	
SOIL B1	Introduction to Soil Science	3.0
	-or-	
CRPS B1	Principles of Crop Production	3.0
AGRI B1	Agriculture, Environment and Society	3.0
AGBS B6	Agricultural Sales and Communication	3.0
COMP B5	Introduction to Microsoft Office	3.0
	-or-	
COMP B2	Introduction to Computer Information Systems	3.0
WEXP B248	Cooperative Work Experience Education	3.0
CRPS B2	Forage Crops	3.0
	-or-	
NRES B1	Range Management	3.0
ANSC B1	Introduction to Animal Science	3.0
	-or-	
ANSC B2	Beef Production	3.0
	-or-	
ANSC B4	Dairy Production	3.0
	-or-	
ANSC B10	Horse Production	3.0
FORE B2	Natural Resources	3.0
	-or-	

FORE B1	Introduction to Forestry	3.0
	-or-	
FORE B3	Wildlife Management	3.0
	-or-	
FORE B5	Identification of California Wildlife	3.0
	-or-	
FORE B6	Forestry Skills	3.0
AGRI B49	Agriculture Leadership Training	2.0

### ***Agriculture Business Management Associate in Arts***

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Agriculture Business Management Associate in Arts.

*To Transfer Coursework*

A minimum of 20 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*About the Agriculture Business Management Major*

The Agriculture Business Management major is made up of agriculture and agricultural business courses pertaining to the industry.

Many jobs in agriculture require training in business courses such as accounting, computers and salesmanship. Career opportunities include farm management, accounting, marketing of agricultural products, sales and services. The Agriculture Business Management Associate in Arts degree is recommended for students planning to transfer to a four-year college.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate in exams or work samples the ability to explain microeconomic and macroeconomic, analyze and evaluate agribusiness problems and management decisions, and perform basic algebra and introductory calculus operations in the context of applied economic analysis and optimization.
- demonstrate skills in fundamental agribusiness principles and analysis techniques into logical decision-making constructs.
- develop strong communication skills, both oral and written, for the purpose of conveying the results of business analyses in a clear, persuasive, and informative manner.
- learn to apply the concepts, principles, and terminology of business (economics, management, finance, marketing, and others) to real-world issues and opportunities in the agricultural and life sciences industries.
- demonstrate specific skills in agriculture business, such as record keeping, marketing, and problem solving.

*Total Units: 20*

#### **Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
AGBS B6	Agricultural Sales and Communication	3.0
CRPS B1	Principles of Crop Production	3.0
	-or-	
FORE B1	Introduction to Forestry	3.0
	-or-	
ANSC B1	Introduction to Animal Science	3.0

	-or-	
ORNH B1	Introduction to Ornamental Horticulture	3.0
COMP B5	Introduction to Microsoft Office	3.0
	-or-	
COMP B2	Introduction to Computer Information Systems	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Agriculture Business Management Associate in Science**

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Agriculture Business Management Associate in Science.

*To Transfer Coursework*

A minimum of 32 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- master skills in agriculture business such as statistical methods to analyze commodity markets and economic data, explain how external forces such as law, environmental regulation, and government policies impact agribusiness decision making.
- demonstrate specific skills in agriculture business.
- have an understanding of the business and economics of the agricultural industry; agriculture business and the implications to the agricultural producer, consumer, and the food system; management principles encountered in the day to day operation of an agricultural enterprise.
- understand production and marketing as needed for employment.
- demonstrate managerial and leadership abilities such as public speaking skills and record keeping abilities in the field of agriculture business; understand and interpret economic news and trends using economic theory and apply them to agricultural operations for employment that will enhance opportunities and success in agriculture business in the 21st century.

Total Units: 32

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
AGBS B6	Agricultural Sales and Communication	3.0
CRPS B1	Principles of Crop Production	3.0
COMP B5	Introduction to Microsoft Office	3.0
	-or-	
COMP B2	Introduction to Computer Information Systems	3.0
WEXP B248	Occupational Work Experience Education	3.0
CRPS B2	Forage Crops	3.0
	-or-	
NRES B1	Range Management	3.0
ANSC B1	Introduction to Animal Science	3.0
	-or-	
ANSC B2	Beef Production	3.0
	-or-	
ANSC B4	Dairy Production	3.0
	-or-	

ANSC B10	Horse Production	3.0
FORE B2	Natural Resources	3.0
	-or-	
FORE B1	Introduction to Forestry	3.0
	-or-	
FORE B3	Wildlife Management	3.0
	-or-	
FORE B5	Identification of California Wildlife	3.0
	-or-	
FORE B6	Forestry Skills	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Animal Science**

**Certificate of Achievement**

Certificate prepares students for entry level employment in food animal production and animal management and care. This program prepares students for careers in Animal Science and entry level production jobs such as feed mill technician, beef technician, swine technician, poultry technician, animal groomer, small animal assistant technician, and pet store employee.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Animal Science Certificate of Achievement.

*To Transfer Coursework*

A minimum of 30 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- identify and implement sustainable livestock management practices that will improve livestock quality, provide efficacious management, protect the natural resources, and ensure economic viability of the livestock industry.
- demonstrate specific skills in animal science such as production, genetics, and nutrition within the animal science discipline needed for employment.
- demonstrate a working knowledge of animal production life cycles to develop a ranch management calendar that incorporates scientifically based management decisions and the latest technological advances in livestock husbandry.
- identify and evaluate livestock anatomy and physiology and relate form to function.

Total Units: 30

**Required Courses**

Course Number	Title	Units
AGRI B1	Agriculture, Environment and Society	3.0
ANSC B1	Introduction to Animal Science	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Select 22 units from the following**

Course Number	Title	Units
ANSC B2	Beef Production	3.0
ANSC B3	Sheep Production	3.0
ANSC B4	Dairy Production	3.0
ANSC B6	Applied Animal Nutrition	4.0
ANSC B7	Animal Diseases	3.0
ANSC B10	Horse Production	3.0
ANSC B11	Livestock Selection and Evaluation	3.0
ANSC B22	Animals and Society	3.0



ANSC B80	Introduction to Veterinary Technology	2.0
ANSC B82	Anatomy and Physiology of Domestic Animals	2.0
ANSC B84	Small Animal Diseases	1.5
ANSC B86	Pharmacology for Veterinary Technician	1.5
ANSC B88	Surgery, Dental and Anesthesiology for Veterinary Technicians	1.5
ANSC B90	Emergency Medicine, Surgery/Nursing Procedures for Veterinary Technicians	2.0
ANSC B92	Clinical Pathology for Veterinary Technicians	2.0
ANSC B94	Caged Birds, Laboratory, and Exotic Animal Medicine	2.0
ANSC B96	Radiology, Ultrasound, and Diagnostic Imaging for Veterinary Technology	1.5
WEXP B248	Occupational Work Experience Education	3.0
	-or-	
WEXP B249	Cooperative Work Experience Education	3.0

**Animal Science Associate in Arts**

The Animal Science major prepares students for occupations in those areas of agriculture involving production, managing, and marketing of livestock. Both the scientific and practical aspects of the production of horse, beef, sheep, swine, dairy cattle and companion animals are stressed in the courses.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Animal Science Associate in Arts.

*To Transfer Coursework*

A minimum of 23 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- be able to identify animal contributions to human needs, demonstrate and understand animal behavior, and identify life cycles and biotechnological principles of animal production.
- demonstrate specific skills in animal science such as production, genetics, and nutrition within the animal science discipline needed for employment.
- demonstrate appropriate husbandry best practices to animals of economic value.
- develop problem solving skills for lifetime learning.
- understand the scientific method and design of experiments to test hypotheses and as such, experience the process of discovery.
- demonstrate problem solving and critical thinking skills, skills to make oral presentations, and fundamental knowledge in production and management.

Total Units: 23

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
AGRI B1	Agriculture, Environment and Society	3.0
ANSC B1	Introduction to Animal Science	3.0
ANSC B2	Beef Production	3.0
	-or-	
ANSC B3	Sheep Production	3.0
	-or-	

ANSC B4	Dairy Production	3.0
	-or-	
ANSC B5	Swine Production	3.0
	-or-	
ANSC B10	Horse Production	3.0
ANSC B6	Applied Animal Nutrition	3.0
ANSC B7	Animal Diseases	3.0
AGRI B49	Agriculture Leadership Training	2.0
ANSC B11	Livestock Selection and Evaluation	3.0
	-or-	
CRPS B2	Forage Crops	3.0
	-or-	
NRES B1	Range Management	3.0

**Animal Science Associate in Science**

The Animal Science major prepares students for occupations in those areas of agriculture that involve livestock production and related agribusinesses. Both the scientific and practical aspects of the production of horse, beef, sheep, swine, dairy cattle, poultry, and companion animals are the focus of courses. Career opportunities in Animal Science include livestock production, feeds industry sales, veterinary assistant, pharmaceutical sales, ranch/farm management, pet care and retail sales.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Animal Science Associate in Science.

*To Transfer Coursework*

A minimum of 26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate AI procedures, proper record keeping in the field of animal science, and skills in day to day animal production such as proper care, feeding, and reproduction.
- be able to practice proper basic principles of animal safety, evaluate performance such as growth and feed conservation.
- demonstrate specific skills in animal science such as production, genetics, and nutrition within the animal science discipline needed for employment.
- identify conformation qualities in cattle, sheep, and swine.

Total Units: 26

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
AGRI B1	Agriculture, Environment and Society	3.0
ANSC B1	Introduction to Animal Science	3.0
WEXP B248	Occupational Work Experience Education	3.0
	-or-	
WEXP B249	Cooperative Work Experience Educaion	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Select 6 units from the following**

Course Number	Title	Units
ANSC B2	Beef Production	3.0
ANSC B3	Sheep Production	3.0
ANSC B4	Dairy Production	3.0

ANSC B10	Horse Production	3.0
ANSC B5	Swine Production	3.0
<b>Select 6 units from the following</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ANSC B6	Applied Animal Nutrition	4.0
ANSC B7	Animal Diseases	3.0
ANSC B11	Livestock Selection & Evaluation	3.0
ANSC B83	Introduction to Veterinary Technology	4.0
ANSC B84	Small Animal Diseases	1.5
ANSC B85	Large Animal Diseases	1.5
ANSC B86	Pharmacology for Veterinary Technicians	1.5
ANSC B88	Surgery, Dental and Anesthesiology for Veterinary Technicians	1.5
ANSC B90	Emergency Medicine, Surgery/Nursing Procedures for Veterinary Technicians	2.0
ANSC B92	Clinical Pathology for Veterinary Technicians	2.0
ANSC B94	Caged Birds, Laboratory, and Exotic Animal Medicine	2.0
ANSC B96	Radiology, Ultrasound, and Diagnostic Imaging for Veterinary Technology	1.5
NRES B1	Range Management	3.0

**Environmental Horticulture Certificate of Achievement**

The Environmental Horticulture Certificate of Achievement is designed for the student desiring specialized training in order to enter the workforce in the least amount of time.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Environmental Horticulture Certificate of Achievement.

*To Transfer Coursework*

A minimum of 29 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in environmental horticulture classes for employment that will enhance opportunities and success in the horticulture industry in the 21st century.
- master academic proficiency and demonstrate specific skills within environmental horticulture disciplines needed for employment.
- be able to identify regional trees and plants and their use in the landscape.

*Total Units: 29*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
CRPS B3	Integrated Pest Management	3.0
ORNH B1	Introduction to Ornamental Horticulture	3.0
ORNH B2	Fundamentals of Nursery Management and Plant Production	3.0
ORNH B3	Landscape Installation and Maintenance	3.0
ORNH B4	Plant Propagation	3.0
ORNH B6	Ornamental Plant Identification - Ground Covers, Vines, and Dwarf Shrubs	3.0
ORNH B7	Ornamental Plant Identification - Large Shrubs, Small Trees, Large Trees & Palms	3.0

ORNH B8	Introduction to Landscape Design	3.0
WEXP B248	Occupational Work Experience Education	3.0
	-or-	
WEXP B249	Cooperative Work Experience Education	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Environmental Horticulture**

**Associate in Arts**

The Environmental Horticulture Associate in Arts degree is designed for the student planning to transfer to a four-year college or university. Career opportunities include the horticulture business, retail and wholesale nursery, landscape design, and the floral industry.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Environmental Horticulture Associate in Arts.

*To Transfer Coursework*

A minimum of 21 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in environmental horticulture classes for employment that will enhance opportunities and success in the horticulture industry in the 21st century.
- master academic proficiency and demonstrate specific skills within environmental horticulture disciplines needed for employment.
- master skills needed for baccalaureate level education or obtain a certificate.

*Total Units: 21*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
SOIL B1	Introduction to Soil Science	3.0
CRPS B10	Plant Biology	4.0
ORNH B1	Introduction to Ornamental Horticulture	3.0
ORNH B4	Plant Propagation	3.0
ORNH B6	Ornamental Plant Identification - Ground Covers, Vines, and Dwarf Shrubs	3.0
ORNH B7	Ornamental Plant Identification - Large Shrubs, Small Trees, Large Trees & Palms	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Environmental Horticulture**

**Associate in Science**

The Environmental Horticulture Associate in Science degree is designed for the student desiring to enter the workforce after earning a two-year degree.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Environmental Horticulture Associate in Science.

*To Transfer Coursework*

A minimum of 33 semester units in the major with a grade of 'C' or

better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in environmental horticulture classes for employment that will enhance opportunities and success in the horticulture industry in the 21st century.
- master academic proficiency and demonstrate specific skills within environmental horticulture disciplines needed for employment.
- master skills needed for baccalaureate level education or obtain a certificate.

Total Units: 33

**Required Courses**

Course Number	Title	Units
CRPS B3	Integrated Pest Management	3.0
CRPS B10	Plant Biology	4.0
ORNH B1	Introduction to Ornamental Horticulture	3.0
ORNH B2	Fundamentals of Nursery Management and Plant Production	3.0
ORNH B3	Landscape Installation and Maintenance	3.0
ORNH B4	Plant Propagation	3.0
ORNH B6	Ornamental Plant Identification - Ground Covers, Vines, and Dwarf Shrubs	3.0
ORNH B7	Ornamental Plant Identification - Large Shrubs, Small Trees, Large Trees and Palms	3.0
ORNH B8	Introduction to Landscape Design	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B49	Agriculture Leadership Training	2.0

**Forestry**

**Certificate of Achievement**

The Certificate of Achievement in Forestry is designed for students desiring to enter the workforce after completing one year of college. Many technician level careers are available in the forestry/natural resources/wildlife fields. Career opportunities include Forestry, natural resources, wildlife, parks and outdoor recreation, fisheries, rangeland and watershed technician positions.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Forestry Certificate of Achievement.

*To Transfer Coursework*

A minimum of 33 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in agriculture classes for employment that will enhance opportunities and success in the agriculture industry in the 21st century.
- master skills needed for baccalaureate level education or obtain a certificate.
- demonstrate specific skills within agriculture disciplines needed for employment

Total Units: 33

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
FORE B1	Introduction to Forestry	3.0
FORE B2	Natural Resources	3.0
FORE B6	Forestry Skills	3.0
WEXP B248	Occupational Work Experience Education	1.0
-or-		
WEXP B249	Cooperative Work Experience Education	1.0
AGRI B49	Agriculture Leadership Training	2.0

**Select 12 units from the following**

Course Number	Title	Units
FORE B3	Wildlife Management	3.0
FORE B4	Wildlife Law Enforcement	3.0
FORE B5	Identification of California Wildlife	3.0
FORE B7	Wildland Fire Management	3.0
CRPS B3	Integrated Pest Management	3.0
CRPS B10	Plant Biology	4.0
NRES B1	Range Management	3.0
NRES B2	Parks and Outdoor Recreation	3.0
BIOL B11	Concepts of Biology	4.0
COMP B5	Introduction to Microsoft Office	3.0

**Forestry**

**Associate in Arts**

The program provides a broad general experience in the arts and science to develop an individual with a well-rounded education, and a core of basic courses which furnish the student with a perspective of the scientific and professional area of forestry, natural resources, fisheries and wildlife. The pre-forestry, resource conservation and wildlife management program at Bakersfield College should conform to the recommended program as prescribed by the school to which the student wishes to transfer. Students planning to go to work after completing a two-year degree should complete the Associate in Science degree and not the Associate in Arts degree. Career opportunities include forestry, fishing industries and wildlife management.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Forestry Associate in Arts.

*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in agriculture classes for employment that will enhance opportunities and success in the agriculture industry in the 21st century.
- master skills needed for baccalaureate level education or obtain a certificate.
- demonstrate specific skills within agriculture disciplines needed for employment

Total Units: 24

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
FORE B2	Natural Resources	3.0
FORE B6	Forestry Skills	3.0
FORE B1	Introduction to Forestry	3.0
	-or-	
FORE B3	Wildlife Management	
FORE B4	Wildlife Law Enforcement	3.0
	-or-	
FORE B5	Identification of California Wildlife	3.0
	-or-	
FORE B7	Wildland Fire Management	3.0
	-or-	
CRPS B3	Integrated Pest Management	3.0
	-or-	
COMP B2	Introduction to Computer Information Systems	3.0
	-or-	
COMP B5	Introduction to Microsoft Office	3.0
WEXP B248	Occupational Work Experience Education	1.0
	-or-	
WEXP B249	Cooperative Work Experience Education	1.0
AGRI B49	Agriculture Leadership Training	2.0

**Forestry**

**Associate in Science**

The program provides a broad general experience in the arts and science to develop an individual with a well-rounded education, and a core of basic courses which furnish the student with a perspective of the scientific and professional area of forestry, natural resources, fisheries and wildlife. The pre-forestry, resource conservation and wildlife management program at Bakersfield College should conform to the recommended program as prescribed by the school to which the student wishes to transfer. Students planning to go to work after completing a two-year degree should complete the Associate in Science degree. Career opportunities include forestry, fishing industries and wildlife management.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Forestry Associate in Science.

*To Transfer Coursework*

A minimum of 31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in agriculture classes for employment that will enhance opportunities and success in the agriculture industry in the 21st century.
- master skills needed for baccalaureate level education or obtain a certificate.
- demonstrate specific skills within agriculture disciplines needed for employment

Total Units: 31

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
CRPS B3	Integrated Pest Management	3.0
FORE B1	Introduction to Forestry	3.0
FORE B2	Natural Resources	3.0
FORE B6	Forestry Skills	3.0
WEXP B248	Occupational Work Experience Education	1.0
	-or-	
WEXP B249	Cooperative Work Experience Education	1.0
AGRI B49	Agriculture Leadership Training	2.0

**Select 7 units from the following**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FORE B3	Wildlife Management	3.0
FORE B4	Wildlife Law Enforcement	3.0
FORE B5	Identification of California Wildlife	3.0
FORE B7	Wildland Fire Management	3.0
CRPS B10	Plant Biology	4.0
NRES B1	Range Management	3.0
NRES B2	Parks and outdoor Recreation	3.0
BIOL B11	Concepts of Biology	4.0
COMP B2	Introduction to Computer Information Systems	3.0
COMP B5	Introduction to Microsoft Office	3.0

**Plant Science**

**Certificate of Achievement**

This program provides instruction in the planting, growing, harvesting, and marketing of field, forage, and vegetable crops as well as irrigated and range pasture crops. Career opportunities in crop science include farm labor foreman, irrigation manager, seed lab technician, research technician, soils lab and pest control technician.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Plant Science Certificate of Achievement.

*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in plant science classes for employment that will enhance opportunities and success in the plant science industry in the 21st century.
- master academic proficiency and demonstrate specific skills within plant science disciplines needed for employment within the industry.

Total Units: 24

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
SOIL B1	Introduction to Soil Science	3.0

AGRI B1	Agriculture, Environment and Society	3.0
ORNH B4	Plant Propagation	3.0
CRPS B3	Integrated Pest Management	3.0
CRPS B1	Principles of Crop Production	3.0
CRPS B2	Forage Crops	3.0
NRES B1	Range Management	3.0
CRPS B4	Vegetable Production	3.0

**Plant Science - Crops Emphasis Associate in Arts**

This program provides instruction in the planting, growing, harvesting, and marketing of field, forage, and vegetable crops as well as irrigated and range pasture crops. See also Environmental Horticulture. Career opportunities in Crop Science include truck and market farm management, orchard and vineyard management, horticulture pest control, low volume irrigation equipment supply and sales and agriculture research technician.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Plant Science Associate in Arts.

*To Transfer Coursework*

A minimum of 25 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in plant science classes for employment that will enhance opportunities and success in the plant science industry in the 21st century.
- master academic proficiency and demonstrate specific skills within plant science disciplines needed for employment within the industry.
- master skills needed for baccalaureate level education or obtain a certificate

Total Units: 25

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
CRPS B10	Plant Biology	4.0
ORNH B4	Plant Propagation	3.0
CRPS B3	Integrated Pest Management	3.0
CRPS B1	Principles of Crop Production	3.0
CRPS B2	Forage Crops	3.0
	-or-	
CRPS B4	Vegetable Production	3.0

**Plant Science - Crops Emphasis Associate in Science**

This program provides instruction in the planting, growing, harvesting, and marketing of field, forage, and vegetable crops as well as irrigated and range pasture crops. See also Environmental Horticulture. Career opportunities in Crop Science include farm management, agricultural pest control, fertilizer sales and

application, soil laboratory technician, irrigation equipment supply and sales. and agricultural research technician.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Plant Science Associate in Science.

*To Transfer Coursework*

A minimum of 28 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in plant science classes for employment that will enhance opportunities and success in the plant science industry in the 21st century.
- master academic proficiency and demonstrate specific skills within plant science disciplines needed for employment within the industry.
- master skills needed for baccalaureate level education or obtain a certificate

Total Units: 28

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
CRPS B10	Plant Biology	4.0
ORNH B4	Plant Propagation	3.0
CRPS B3	Integrated Pest Management	3.0
CRPS B1	Principles of Crop Production	3.0
CRPS B2	Forage Crops	3.0
CRPS B4	Vegetable Production	3.0

**Plant Science - Horticulture Emphasis Associate in Arts**

This program provides instruction in the planting, growing, harvesting, and marketing of field, forage, and vegetable crops as well as irrigated and range pasture crops. See also Environmental Horticulture. Career opportunities in Crop Science include truck and market farm management, orchard and vineyard management, horticulture pest control, low volume irrigation equipment supply and sales and agriculture research technician.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Plant Science Associate in Arts.

*To Transfer Coursework*

A minimum of 25 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in plant science classes for employment that will enhance opportunities and success in the plant science industry in the

21st century.

- master academic proficiency and demonstrate specific skills within plant science disciplines needed for employment within the industry.
- master skills needed for baccalaureate level education or obtain a certificate

Total Units: 25

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
CRPS B10	Plant Biology	4.0
ORNH B4	Plant Propagation	3.0
CRPS B3	Integrated Pest Management	3.0

**Select six units from the following**

Course Number	Title	Units
ORNH B2	Fundamentals of Nursery Management and Plant Production	3.0
ORNH B3	Landscape Installation and Maintenance	3.0
ORNH B6	Ornamental Plant Identification-Ground Covers, Vines, and Dwarf Shrubs	3.0
	-or-	
ORNH B7	Ornamental Plant Identification- Large Shrubs, Small Trees, Large Trees and Palms	3.0

**Plant Science - Horticulture Emphasis**

**Associate in Science**

This program provides instruction in the planting, growing, harvesting, and marketing of field, forage, and vegetable crops as well as irrigated and range pasture crops. See also Environmental Horticulture. Career opportunities in Crop Science include farm management, agricultural pest control, fertilizer sales and application, soil laboratory technician, irrigation equipment supply and sales, and agricultural research technician.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Plant Science Associate in Science.

*To Transfer Coursework*

A minimum of 28 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate managerial and leadership abilities in plant science classes for employment that will enhance opportunities and success in the plant science industry in the 21st century.
- master academic proficiency and demonstrate specific skills within plant science disciplines needed for employment within the industry.
- master skills needed for baccalaureate level education or obtain a certificate

Total Units: 28

**Required Courses**

Course Number	Title	Units
AGBS B2	Agricultural Economics	3.0
SOIL B1	Introduction to Soil Science	3.0
AGRI B1	Agriculture, Environment and Society	3.0
CRPS B10	Plant Biology	4.0
ORNH B4	Plant Propagation	3.0
CRPS B3	Integrated Pest Management	3.0

**Select three of the following**

Course Number	Title	Units
ORNH B2	Fundamentals of Nursery Management and Plant Production	3.0
ORNH B36	Beginning Floral Design	3.0
ORNH B3	Landscape Installation and Maintenance	3.0
ORNH B8	Introduction to Landscape Design	3.0

**Pre-Veterinary Medicine Option**

The veterinarian diagnoses and treats diseases and disorders of animals; determines the nature of disease or injury and treats animals medically or surgically; performs autopsies to determine causes of death; gives advice on care and breeding of animals. Some engage in general practice, some become involved in research and development, while others are active in such fields as consultation, teaching, technical writing, sales or promotion of commercial products, or provide technical services for commercial firms.

**Suggested Courses**

Course Number	Title	Units
WEXP B248	Occupational Work Experience Education	3.0
	-or-	
WEXP B249	Cooperative Work Experience Education	3.0
ANSC B1	Introduction to Animal Science	3.0
ANSC B6	Applied Animal Nutrition	4.0
ANSC B7	Animal Diseases	3.0
BIOL B3a	General Biology I	5.0
BIOL B3b	General Biology II	5.0
CHEM B1a	General Chemistry I	5.0
CHEM B1b	General Chemistry and Chemical Analysis	5.0
CHEM B18	Elementary Organic Chemistry	5.0
MATH B22	Elementary Probability and Statistics	4.0
PHYS B2a	General Physics-Mechanics and Heat	4.0
PHYS B2b	General Physics-Sound, Light, Electricity, Magnetism, Modern Physics	4.0

**Registered Veterinary Technician**

**Job Skills Certificate**

This certificate prepares students for the California Veterinary Medical Board RVT Licensing Exam. Students must also complete the CVMB required clinic hours by working in a veterinary hospital/clinic. Course eligibility expires five years from the time it is completed for the state exam. Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Registered Veterinary Technicians Job Skills Certificate. Students who do not choose to become licensed RVT's are still able to work in the field as Animal Health Assistants. Career opportunities include Veterinary Technician/Assistant, supply distributor/representative, retail/wholesale sales, and pet groomer.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Registered Veterinary Technician Job Skills Certificate.



*To Transfer Coursework*

A minimum of 17.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in animal care procedures and skills required for employment and enhancement of opportunities and success in the veterinary/pet care industry.
- master academic proficiency in veterinary medicine needed to obtain a job skills certificate.
- improve program graduate success rates for passing California Veterinary Medical Board licensing exam.

Total Units: 17.5

**Required Courses**

Course Number	Title	Units
ANSC B83	Introduction to Veterinary Technology	4.0
ANSC B84	Small Animal Diseases	1.5
ANSC B85	Large Animal Diseases	1.5
ANSC B86	Pharmacology for Veterinary Technicians	1.5
ANSC B88	Surgery, Dental and Anesthesiology for Veterinary Technicians	1.5
ANSC B90	Emergency Medicine, Surgery/Nursing Procedures for Veterinary Technicians	2.0
ANSC B92	Clinical Pathology for Veterinary Technicians	2.0
ANSC B94	Caged Birds, Laboratory, and Exotic Animal Medicine	2.0
ANSC B96	Radiology, Ultrasound, and Diagnostic Imaging for Veterinary Technology	1.5

**American Sign Language**

*American Sign Language*

**Associate in Arts**

The major in American Sign Language provides a linguistic and grammatical study of the language and an in-depth look into the culture of deaf people. The objective of the program is to provide students with a foundation for achieving fluency and the opportunity to transfer to a four-year institution. With additional training, employment opportunities include interpreting, teaching and social service. If transferring to an institution other than UC or CSU, students should check with the receiving institution to ensure transferability of ASL courses as foreign language credit.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an American Sign Language Associate in Arts.

*To Transfer Coursework*

A minimum of 20 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Level Outcomes*

Upon successful completion, the student will:

- demonstrate the ability to use and recognize specific language elements in the use of a language.
- demonstrate an understanding of, and an ability to describe, the ways in which foreign languages reflect historical and cultural contexts.

- transmit a comprehensive knowledge of the cultural heritage being studied.
- differentiate and analyze an understanding of the diversity of human expression.

Total Units: 20

**Required Courses**

Course Number	Title	Units
ASL B1	American Sign Language 1	5.0
ASL B2	American Sign Language 2	5.0
ASL B3	American Sign Language 3	5.0
ASL B4	American Sign Language 4	5.0

**Other Suggested Courses**

Course Number	Title	Units
ASL B6	American Deaf Culture	3.0
ASL B7	ASL Literature and Performance	3.0

**Anthropology**

*Anthropology*

**Associate of Arts Degree for Transfer**

The Associate of Arts in Anthropology Degree for Transfer is designed to provide students a clear pathway to the CSU anthropology major and completion of the anthropology baccalaureate degree, to grant guaranteed admission to a CSU to a similar major, with junior standing, and the ability to complete their remaining requirements within 60 semester or 90 quarter units.

*Program Learning Outcomes*

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

- demonstrate an understanding of the biocultural nature of humanity through application of the core concepts, methods, and theories, in cultural anthropology, biological anthropology, and archaeology to explanations of human diversity.
- describe the origins and history of the discipline of American anthropology; its unique perspectives and approaches to the study of humanity; its ethical challenges; its dual nature as the humanistic/scientific study of humanity; and its uses and value in today's world.
- critically evaluate information about human societies and origins without reliance on taken-for-granted assumptions, using a combination of skills, including the scientific method, qualitative social analysis, and reflective writing.

Anthropology is the scientific study of humanity, examining human biology and culture today and in the past; and biological and cultural change through time. Students with an Anthropology major concentrate in one of the following areas: cultural anthropology, linguistic anthropology, biological/physical anthropology or archaeology. The major in anthropology prepares students for a variety of research/academic positions (e.g. museums, colleges and universities, zoos); and non-academic/research positions (e.g. in business, medicine, cultural resource management, government and NGO's). The objective of this program is to prepare students for transfer to a four-year university. Anthropology's emphasis on research skills, organizational skills, critical thinking, technical writing, project management and use of a holistic perspective make it an excellent undergraduate major for a variety of fields and graduate programs.

The following is required for the completion of all AA-T or AS-T degrees:

1. The completion of 60 semester units that are eligible for transfer to the California State University, including both of the following:
  - The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University – Breadth Requirements.
  - A minimum of 18 semester units in a major area of emphasis, as determined by the Kern Community College District Board of Trustees.
2. The obtaining of a minimum grade point average of 2.0.
3. The completion of all courses required for the major with a “C” or better. “P” (Pass) grade is not acceptable for courses in the major.

**Required Core - 9 Units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ANTH B1	Physical Anthropology	3.0
ANTH B2	Introduction to Cultural Anthropology	3.0
ANTH B3	Introduction to Anthropology	3.0

**List A - Select at least one, 3-5 Units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ANTH B5	North American Indians	3.0
	-or-	
PSYC B5	Elementary Statistics for Behavioral and Social Sciences	5.0

**List B - Select at least one, 4 Units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PSYC B6	Research Methods for the Behavioral and Social Sciences	4.0
	-or-	
GEOL B10	Introduction to Geology	3.0
	-and-	
GEOL B10L	Introduction to Geology Laboratory	1.0
	-or-	
ERSC B10	Introduction to Earth Science	3.0
	-and-	
ERSC B10L	Introduction to Earth Science Laboratory	1.0

**List C - Select at least one, 3 Units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ART B1	Art Appreciation	3.0
	-or-	
GEOG B2	Human Geography	3.0
	-or-	
MUSC B24	A Survey of World Music	3.0
	-or-	
PHIL B37	Introduction to World Religions	3.0
Units in Major		19-21

**Apprenticeship**

Apprenticeship courses are designed for indentured apprentices under the Shelley-Maloney California Apprenticeship Standards Act. The Apprentice Agreement states that the student will supplement on-the-job training with related classroom instruction during each year of apprenticeship.

Apprentice classes meet three to eight hours per week and yield two to six units of credit. Joint Apprenticeship Committees administering

each program are composed of representation from labor, management, California State Division of Apprenticeship Standards, and Bakersfield College. These committees adopt state approved standards for operation and assure equal opportunity for applicants. Related training in apprenticeable occupations, in addition to those listed below, may be offered as the need arises.

Information for entry into apprenticeship programs may be obtained from the college coordinator of apprenticeship training. Interested persons are encouraged to apply for any of these programs and may contact the Bakersfield College Apprenticeship Department at (661) 395-4408 for further information.

*Program Learning Outcomes*

Upon successful completion, the student will:

- successfully transition to the Journeyman level designation and certification, upon successful completion of requirements by the California Division of Apprenticeship Standards.
- demonstrate measures used by trades in use of tools, techniques, hands-on skills, and competencies for practices in specific occupations.
- identify and use equipment of specific trade in meeting standards for measurement and calibration.
- read, and apply specific trade instructions and design for construction or production outcomes as required by the specific trade practices and standards.

**Apprenticeship Associate in Arts**

Effective Fall 2009 all courses used for meeting the requirements for degrees must be completed with a grade of ‘C’ or better.

<i>Title</i>	<i>Units</i>
Apprenticeship classes for duration of apprentice period (45 units maximum)	12-45
Work Experience (four semesters, 16 units max)	4-16
Related technical subjects as recommended by JAC	0-6

In addition, students must comply with the requirements as shown in the catalog under Graduation Requirements. The departmental counselor can assist the student in planning for the A.A. degree.

**Apprenticeship Certificate of Achievement**

<i>Title</i>	<i>Units</i>
Apprenticeship classes for duration of apprentice period	12-45
Work Experience 4-16 Electives (as recommended by JAC) to reach 30 units total (if needed).	16

**Architecture**

**Architectural Computer Aided Drafting Job Skills Certificate**

This certificate covers the principles of architectural computer aided drafting to include basic 2D and 3D AutoCAD application as well as BIM related software covering architectural practices including both residential and light commercial working documents. Emphasis is also placed on architectural delineation using software.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Architectural CAD Job Skills Certificate.

*To Transfer Coursework*

A minimum of 11 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.
- demonstrate problem solving skills used in industrial design and product development.

Total Units: 11

**Required Courses**

Course Number	Title	Units
INDR B10	Introduction to Industrial Drawing & Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting & Design (CAD)	1.0
INDR B20a	Computer Aided Drafting & Design CAD	3.0
ARCH B16	Digital Tools for Graphics Communication	3.0
ARCH B33	Architectural Computer Practice	3.0

**Architectural Drafting Associate in Arts**

This degree covers the principles of architectural CAD to include basic 2D and 3D AutoCAD application as well as BIM related software covering architectural practices including both residential and light commercial working documents. Emphasis is also placed on architectural delineation using software.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Architectural Drafting Associate in Arts.

*To Transfer Coursework*

A minimum of 27.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.
- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.

Total Units: 27.5

**Required Courses**

Course Number	Title	Units
ARCH B1	Introduction to Architecture and Environmental Design	1.5
ARCH B6	Materials of Construction	3.0
ARCH B11	Design and Perspective Drawing	4.0
ARCH B12	Design Drawing and Color	4.0
ARCH B16	Digital Tools for Graphics Communication	3.0
ARCH B21	Architectural Design Fundamentals I	4.0
ARCH B30	Residential Building Information Modeling	4.0
ARCH B33	Architectural Computer Practice	3.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0

**Electives**

Course Number	Title	Units
ARCH B55	Residential Building Codes	3.0
INDR B20A	Computer Aided Drafting and Design (CAD)	3.0

**Architectural Drafting Associate in Science**

This degree covers the principles of architectural CAD to include basic 2D and 3D AutoCAD application as well as BIM related software covering architectural practices including both residential and light commercial working documents. Emphasis is also placed on architectural delineation using software.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Architectural Drafting Associate in Science.

*To Transfer Coursework*

A minimum of 39.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills required for employment in the architecture industry.
- demonstrate problem solving skills used in architectural design.
- demonstrate a deep understanding of the core material required for transfer to a four-year university architectural degree program or for certification in architecture.

Total Units: 39.5

**Required Courses**

Course Number	Title	Units
ARCH B1	Introduction to Architecture and Environmental Design	1.5
ARCH B6	Materials of Construction	3.0
ARCH B11	Design and Perspective Drawing	4.0
ARCH B12	Design Drawing and Color	4.0
ARCH B16	Digital Tools for Graphics Communication	3.0
ARCH B21	Architectural Design Fundamentals I	4.0
ARCH B22	Architectural Design Fundamentals II	4.0
ARCH B30	Residential Building Information Modeling	4.0
ARCH B33	Architectural Computer Practice	3.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0

MATH B1a	Precalculus I	4.0
	-or-	
MATH B6a	Analytic Geometry/Calculus I	4.0
PHYS B2a	General Physics – Mechanics and Heat	4.0

**Recommended Courses**

Course Number	Title	Units
INDR B20A	Computer Aided Drafting and Design (CAD)	3.0

**Art****Studio Arts****Associate of Arts Degree for Transfer**

The Associate in Arts in Studio Arts for Transfer is intended for those transfer-directed students who plan to complete an AA in Art because it guarantees admission to the CSU system (but not to a particular campus or major). In order to earn the degree, students must complete a maximum of 60 required semester units of CSU-transferable coursework which includes the CSU General Education Breadth or IGETC requirements with a minimum GPA of 2.0. Students transferring to a CSU campus that does accept the Associate in Arts in Studio Arts for Transfer degree will be required to complete no more than 60 units after transfer to earn a bachelor's degree (unless the major is a designated "high-unit" major). This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements. This degree eliminates the additional Bakersfield College graduation requirements.

The Bakersfield College Art Department wishes to expose students to study in a wide variety of media, and to prepare them to make societal contributions by becoming citizens who are visually literate, culturally aware, skilled in creative problem-solving, and aesthetically sensitive.

Program level outcomes - the successful student will be able to:

- demonstrate an understanding of the principles, elements, and language of art/design.
- demonstrate the ability to critique their own work, as well as the work of other students; and defend their creative choices verbally.
- demonstrate an understanding of a portfolio or "body of work."

**To Achieve the Associate of Arts Degree for Transfer**

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Studio Arts Associate of Arts Degree for Transfer.

**Required Core - 12 Units**

Course Number	Title	Units
ART B36	Survey of Western Art II*	3.0
ART B4	Two Dimensional Design*	3.0
ART B5	Three Dimensional Design	3.0
ART B2	Drawing I *	3.0

**List A - Choose 3 Units**

Course Number	Title	Units
ART B35	Survey of Western Art I*	3.0
ART B37	Survey of Art – Latin America*	3.0

**List B - Curricular Areas - Choose 9 Units\*\***

Course Number	Title	Units
ART B8	Figure Drawing I	3.0
ART B6	Acrylic Painting I	3.0
ART B10	Ceramics I	3.0
ART B13	Sculpture I	3.0
ART B20	Digital Art I – Vector Art	3.0
ART B17	Black & White Photography	3.0

\*\*A student can choose any other "Local studio course" or "Second Semester course" to complete the 9 unit "Curricular" requirement:

**Local Studio Courses**

Course Number	Title	Units
ART B16	Digital Photography	3.0
ART B24	Digital Art II - Raster Art	3.0
ART B25	Typography	3.0
ART B42	Graphic Design	3.0

**Second Semester Courses**

Course Number	Title	Units
ART B9	Figure Drawing II	3.0
AR B11	Ceramics II	3.0

**Category**

Units in Major	24.0
CSU GE Breadth	39.0
Possible double counting of GE's	12.0
Degree Total	60.0

\*Courses with an asterisk can be double counted for General Education

**No additional local requirements for this degree will be imposed.**

**Automotive****Auto Brakes and Wheel Alignment****Certificate of Achievement**

This program develops student's knowledge and skills in automotive brake and suspension systems operation, trouble-shooting, maintenance, repair, and wheel alignment procedures.

**To Achieve the Certificate of Achievement**

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Auto Brakes and Wheel Alignment Certificate of Achievement.

**To Transfer Coursework**

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

**Program Learning Outcomes**

Upon successful completion, the student will:

- demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.
- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.

*Total Units: 24*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B106	Auto Brakes/Suspension/Alignment	9.0
AUTO B64	Automotive Electricity and Electronics	4.0
	-or-	
AUTO B14	Auto Tune-Up: Electrical/Ignition/Accessories	11.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Electives — For a total of at least 24 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B61	Basic & Enhanced Area Clean Air Car Course	4.0
AUTO B2a	Engine Repair & Machining	9.0
	-or-	
AUTO B75a	Introduction to Engine Overhaul	3.0
	-and-	
AUTO B75b	Engine Repair Techniques	3.0
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WEXP B249	Cooperative Work Experience Education	1-4.0
INDT B275	Special Problems in Automotive Technology	2.0

 **Auto Engine Overhaul Certificate of Achievement**

This program develops student's knowledge and skills in the areas of automotive and light truck engine overhaul and machining procedures. Program includes instruction in theory of operation, diagnostic, and repair procedures.

*To Achieve the Certificate of Achievement*  
Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Auto Engine Overhaul Certificate of Achievement.

*To Transfer Coursework*  
A minimum of 23 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

- Program Learning Outcomes*  
Upon successful completion, the student will:
- demonstrate proficiency in technical skills and safety principles required for industrial employment.
  - demonstrate problem solving skills used in industrial design and product development.
  - demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.

Total Units: 23-24

**Required Courses — Day Students**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B2a	Engine Repair & Machining	9.0
AUTO B2b	Advanced Engine Repair & Machining	9.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Required Courses — Night Students**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B75a	Introduction to Engine Overhaul	3.0

AUTO B75b	Engine Repair Techniques	3.0
AUTO B75c	Advanced Engine Overhaul	3.0
AUTO B75d	Advanced Engine Machining	3.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Electives — for a total of at least 23 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B1ab	Introduction to Automotive Technology	4.0
AUTO B14	Auto Tune-Up: Electrical/Ignition/Accessories	11.0
AUTO B15	Auto Tune-Up:Fuel Sytems and Emission Control	11.0
AUTO B64	Automotive Electricity and Electronics	4.0
AUTO B61	Basic & Enhanced Area Clean Air Car Course	4.0
AUTO B112	Automotive Transmissions and Gear Boxes	9.0
INDT B275	Special Problems in Automotive Technology	2.0
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WEXP B249	Cooperative Work Experience Education	4.0

 **Auto Tune-Up and Emission Systems Certificate of Achievement**

This program develops student's knowledge and skills in the areas of automotive and light truck tune-up and emission control systems. Program includes instruction in theory of ignition, fuel, and computer control systems as well as emission test procedures and complete diagnostic and repair procedures.

*To Achieve the Certificate of Achievement*  
Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Auto Tune-Up and Emissions Systems Certificate of Achievement.

*To Transfer Coursework*  
A minimum of 26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

- Program Learning Outcomes*  
Upon successful completion, the student will:
- demonstrate proficiency in technical skills and safety principles required for industrial employment.
  - demonstrate problem solving skills used in industrial design and product development.
  - demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.

Total Units: 26

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B14	Auto Tune-Up: Electrical/Ignition/Accessories	11.0
AUTO B15	Auto Tune-Up: Fuel Systems and Emission Control	11.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Electives — to equal 26 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B59	Automotive Air Conditioning	4.0

AUTO B64	Automotive Electricity and Electronics	4.0
AUTO B61	Basic & Enhanced Area Clean Air Car Course	4.0
AUTO B75a	Introduction to Engine Overhaul	3.0
	-or-	
AUTO B2a	Engine Repair & Machining	9.0
ELET B1	Basic Electronics (DC and AC)	4.0
ENGL B50	Introduction to College Composition	4.0
WEXP B249	Cooperative Work Experience Education	1-4.0
INDT B275	Special Problems in Automotive Technology	2.0

understanding of general office keyboarding skills, and automotive parts sales and stocking systems.

Career opportunities include automotive repair front desk, occupations requiring a general technical knowledge of the automobile and light truck, automotive service writing including California legal requirements set forth by the Bureau of Automotive Repair, handling warranty claims, DMV documentation and processing, automotive parts sales and stocking systems.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Automotive Management Job Skills Certificate.

*To Transfer Coursework*

A minimum of 14 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- understand shop and office personal safety and environmental hazards related to the automotive industry.
- understand how to write service repair orders using both written and computerized formats.
- demonstrate proper telephone and interpersonal communication skills.
- have knowledge of and practice in creating DMV documentation and processing.
- understand California consumer protection laws and the Bureau of Automotive Repairs regulations.
- have knowledge and practice of accepted work ethics in the automotive repair business.
- have knowledge of the automotive parts handling systems and sales techniques.
- have knowledge and practice of handling consumer warranty claims and documentation.

*Total Units: 14*

**Required Courses**


<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B1ab	Introduction to Automotive Technology	4.0
AUTO B3	Fundamentals of Automotive Management and Services	4.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	
COMP B5	Introduction to Microsoft Office	3.0

 **Automotive Power Trains Certificate of Achievement**

This program develops student's knowledge and skills in the areas of automotive and light truck standard and automotive transmissions, differential and drive train components. Program includes instruction in theory of operation, diagnostic and repair procedures as well as complete repair procedures.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Automotive Power Trains Certificate of Achievement.

 **Automotive Heating, Ventilation & Air Conditioning (HVAC) Job Skills Certificate**

This program develops student's knowledge and skills in automotive and light truck heating and air conditioning systems. The program includes instruction and theory in the operation, diagnosis, environmental concerns from refrigerants, electrical controls and computer operation, and proper repairs to these systems. Career opportunities in Automotive Technology prepares automotive technicians for employment as auto technicians for operation, diagnosis, environmental concerns from refrigerants, electrical controls and computer operation, and proper repairs to these systems.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Automotive Heating, Ventilation & Air Conditioning (HVAC) Job Skills Certificate.

*To Transfer Coursework*

A minimum of 15 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.

*Total Units: 15*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B59	Automotive Air Conditioning	4.0
AUTO B14	Auto Tune-Up: Electrical/Ignition/Accessories	11.0

 **Automotive Management Job Skills Certificate**

This program develops the student's knowledge and basic skills to seek entry level employment in the automotive services industry. These include a general technical knowledge of the automobile and light truck; automotive service writing including California legal requirements set forth by the Bureau of Automotive Repair; customer satisfaction including telephone and face-to-face interpersonal communications skills; handling warranty claims and documentation; DMV documentation and processing; use and



*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.

Total Units: 24

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B112	Automotive Transmissions and Gear Boxes	9.0
AUTO B14	Auto Tune-Up: Electrical/Ignition/Accessories	11.0
	-or-	
AUTO B64	Automotive Electricity and Electronics	4.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Electives — for a total of at least 24 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B106	Auto Brakes/Suspension/Alignment	9.0
AUTO B61	Basic & Enhanced Area Clean Air Car Course	4.0
AUTO B2a	Engine Repair & Machining	9.0
	-or-	
AUTO B75a	Introduction to Engine Overhaul	3.0
WEXP B249	Cooperative Work Experience Education	1-4.0
INDT B275	Special Problems in Automotive Technology	2.0
WELD B74a	Introduction to GMAW (Gas Metal Arc Welding) and FCAW (Flux Core Arc Welding)	2.0
WELD B74b	Introduction to Gas Tungsten Arc Welding	2.0

**Basic and Advanced Clean Air Car Course Job Skills Certificate**

This course prepares the student to take the California State Smog Test. It also helps prepare the student to take the ASE (Automotive Service Excellence) A-6, A-8 and L-1 tests. All elements of this class are mandated by the California Department of Consumer Affairs, Bureau of Automotive Repair and are subject to periodic change and addition by that agency.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Basic and Advanced Clean Air Car Course Job Skills Certificate.

*To Transfer Coursework*

A minimum of 15 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment.
- demonstrate problem solving skills used in industrial design

and product development.

- demonstrate a deep understanding of the core material required for transfer to a four-year university degree program or for certification in the department programs.

Total Units:15

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B15	Auto Tune-up: Fuel Systems and Emission Controls	11.0
AUTO B61	Basic and Enhanced Area Clean Air Car Course	4.0

**Industrial Technology, Automotive Option Associate in Science**

This degree prepares students to work as technicians in the automotive industry and provides them with a broad based general education as well as technical competency required for the industry. In addition to the general education requirements prescribed by the Board of Governors of the California Community Colleges and the Board of Trustees of the Kern Community College District, the student must successfully complete 31 units from the automotive courses listed below. From these classes the student should choose two major classes in a specialty area and make up the remainder of the 32 units from areas of choice. Career opportunities in automotive technology include automotive engine performance and emissions, engine overhaul, brakes and suspension, transmission and gear box overhaul.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Industrial Technology, Automotive Option Associate in Science degree.

*To Transfer Coursework*

A minimum of 31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment in the automotive industry.
- demonstrate problem solving skills used in the automotive industry.
- demonstrate a deep understanding of the core material required for certification in the automotive program.

Total Units: 31

**Select 31 units from the following courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
AUTO B2a	Engine Repair & Machining	9.0
AUTO B2b	Advanced Engine Repair & Machining	9.0
AUTO B106	Auto Brakes/Suspension/Alignment	9.0
AUTO B112	Automotive Transmissions and Gear Boxes	9.0
AUTO B14	Auto Tune-Up: Electrical/Ignition/Accessories	11.0
AUTO B15	Auto Tune-Up: Fuel Systems and Emission Controls	11.0
ELET B1	Basic Electronics (DC and AC)	4.0

## Biology

### Biology - General Biology

#### Associate in Science

Biology is the study and application of principles of cell biology, ecology, evolution, genetics, anatomy and physiology as it relates to humans and other organisms. Laboratory and field trip activities emphasize the integrated and interdependent nature of living systems. Course work trains students to use observation and investigation to identify questions and pursue answers using the scientific method.

Graduates with biology degrees may pursue jobs in a variety of fields including; biochemistry, biotechnology, botany, ecology, entomology, genetics, health, immunology, medicine, molecular biology, oceanography, pharmacy, teaching, wildlife management, zoology, and related clinical fields. Biology majors may choose to specialize in research based on a particular organism or an aspect of biology related to those listed above. Career opportunities in Biology include many fields of biology, medical school, dental school and veterinary school.

#### To Achieve the Associate in Science

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Biology - General Biology Associate in Science degree.

#### To Transfer Coursework

A minimum of 20 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- demonstrate proficiency using a microscope.
- research a topic, design experiments, synthesize and evaluate information they find, and justify and express their opinion on virtually any topic using the scientific method.

Total Units: 20

#### Required Courses

Course Number	Title	Units
BIOL B3a	General Biology I	5.0
BIOL B3b	General Biology II	5.0
CHEM B1a	General Chemistry I	5.0
CHEM B1b	General Chemistry and Chemical Analysis	5.0

#### Electives

Course Number	Title	Units
BIOL B16	General Microbiology	5.0
BIOL B21	Special Projects in Biology	1-2.0

### Biology - Human Biology

#### Associate in Science

Courses required for the Human Biology Associate of Science degree include biology and chemistry courses necessary for transfer to allied health programs such as nursing, physical therapy, Physician Assistant, and radiology. Please refer to the Suggested Program information and check with a counselor concerning specific degree requirements to specific programs and transfer institutions. Please note that many of the courses have prerequisites that are best taken in the appropriate order to ensure success.

Career opportunities in Biology include Nursing, physical therapy, medical technologist, and physician assistant.

#### To Achieve the Associate in Science

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Biology - General Biology Associate in Science degree.

#### To Transfer Coursework

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Fourth semester Nursing students and second semester radiologic technology students will report biology prerequisite courses were important to their success thus far in the program.

Students who successfully complete the allied health pathway will be accepted into the Nursing program (defined as NURS B1) and further, those students will persist and complete the Nursing program (defined as NURS B9 and B10).

Upon successful completion, the student will:

- identify medical problems and apply appropriate and effective solutions.
- analyze a clinical situation using anatomical terminology, select the correct technology to use for further examination, analyze and determine a diagnosis when a pathology is described, create a plan of action.
- demonstrate proficiency using a microscope.

Total Units: 18

#### Required Courses

Course Number	Title	Units
BIOL B32	Human Anatomy and Physiology I	4.0
BIOL B33	Human Anatomy and Physiology II	4.0
BIOL B16	General Microbiology	5.0

#### Electives — for a total of at least 18 units

Course Number	Title	Units
BIOL B21	Special Projects in Biology	1-2.0
BIOL B34	Pathophysiology	3.0
CHEM B2a	Introductory General Chemistry	4.0
CHEM B11	Introduction to General, Organic and Biochemistry	5.0
CHEM B1a	General Chemistry I	5.0
CHEM B1b	General Chemistry and Chemical Analysis	5.0
MEDS B60	Medical Terminology	3.0
NUTR B10	Elementary Nutrition	3.0

Note: Students transferring to a four-year institution for a Bachelor of Science in Biology generally take the CHEM B1a, B1b sequence. Note: Students transferring for a Bachelor of Science in Nursing should consult the university of choice as to which chemistry sequence meets transfer needs.

#### Suggested Program for Biology Majors

This suggested program meets all Intersegmental General Education Transfer Curriculum requirements. This program is a series of courses that community college students can use to satisfy lower-division general-education requirements at any California State University or University of California campus. It will permit a student to transfer to a campus of the CSU or the UC system

without the need, after transfer, to take additional lower-division general-education courses to satisfy campus general education requirements. The program also meets or exceeds the minimum entrance requirements for most medical schools and other health professional programs. This program assumes you are academically prepared for university-level courses. Students requiring additional preparation in mathematics, reading or English will require at least one additional semester and should consult a counselor for advice.

**First Semester**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
BIOL B3a	General Biology I	5.0
CHEM B1a	General Chemistry I	5.0
ENGL B1a	Expository Composition	3.0
	Art or Humanities elective	3.0

**Second Semester**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
BIOL B3b	General Biology II	5.0
CHEM B1b	General Chemistry and Chemical Analysis	5.0
ENGL B2	Advanced Composition and Critical Thinking	4.0
	-or-	
PHIL B9	Critical Thinking and Advanced Composition	4.0

**Third Semester**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MATH B6a	Analytic Geometry and Calculus I	4.0
PHYS B2a	General Physics-Mechanics and Heat	4.0
COMM B1	Public Speaking	3.0
	Art or Humanities elective	3.0
	Social or Behavioral Science elective	3.0

**Fourth Semester**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MATH B6b	Analytic Geometry and Calculus II	4.0
PHYS B2b	General Physics-Sound, Light, Electricity, Magnetism, Modern Physics	4.0
	Art or Humanities elective	3.0
	Social or Behavioral Science elective	3.0

*Note: Some UC campuses now require calculus-based physics for biology majors and other particular courses. If you are planning to transfer to a UC campus, contact their admissions office for advice.*

**Business Administration**

The Business Administration department strives to promote and enhance the economic development of the community; to provide for lifelong learning and academic excellence through course content, application, and technology; to serve diverse populations with a sense of worth and dignity; to establish work ethics relative to a positive work environment; to meet workforce needs through skills development, training, and personal growth; and to communicate a sense of vision and renewal through a creative utilization of productive and innovative resources.

**Accounting**

**Associate in Arts**

An Accounting degree provides students with the knowledge and skills necessary for employment and growth in the accounting profession. Using the language of business, accountants assemble and analyze, process, and communicate essential information about financial operations.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Accounting Associate in Arts degree.

*To Transfer Coursework*

A minimum of 30.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- analyze and record financial transactions in a manual or computerized general ledger system.
- prepare financial statements; analyze and prepare financial information for management decision making.
- utilize current income tax resources to prepare personal income tax returns.
- communicate financial information effectively within a business environment.
- process payroll transactions in accordance with current payroll reporting requirements.

*Total Units: 30.5*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
BSAD B53a	Introduction to Accounting 1	3.0
BSAD B53b	Introduction to Accounting 2	3.0
BSAD B54	Payroll Accounting	3.0
BSAD B55	Computer Accounting Applications	3.0
BSAD B40	Personal Finance	3.0
BSAD B51	Business Mathematics	3.0
BSAD B264	Ten-Key Proficiency	0.5
BSAD B18	Business Law	3.0
BSAD B20	Introduction to Business	3.0
BSAD B5	Human Relations and People Skills	3.0
COMP B5	Introduction to Microsoft Office	3.0

*Note: BSAD B1 may be substituted for BSAD B53a and BSAD B53b.*

**Office Assistant**

**Job Skills Certificate**

This certificate prepares students as entry-level office support staff. Students are urged to continue beyond the Job Skills Certificate and earn a Certificate of Achievement or Associate of Arts degree.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Office Assistant Job Skills Certificate.

*To Transfer Coursework*

A minimum of 11 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- interact effectively in oral and written communication.
- participate in office related work experience to achieve the following desirable job qualities:
  - function as a team member.
  - demonstrate interpersonal skills on the job.

- manage multi-tasks efficiently.
- model professional and ethical behaviors.
- identify soft skills such as being on time.
- demonstrate minimum acceptable skills in ten-key, keyboarding, and document processing.
- demonstrate minimum filing competencies.

Total Units: 11

**Required Courses**

Course Number	Title	Units
BSAD B252abc	Computer Keyboarding, Parts 1-2-3	3.0
BSAD B287	Filing	1.5
BSAD B85/B285	Business English	3.0
COMP B5	Introduction to Microsoft Office	3.0
BSAD B264	Ten-Key Proficiency	0.5

**Office Assistant**

**Certificate of Achievement**

An Office Assistant Certificate of Achievement increases the student's employability as office support staff. Students who have completed the Job Skills Certificate courses can quickly upgrade to the Certificate of Achievement by completing the following courses with at least a 'C' grade.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Office Assistant Certificate of Achievement.

*To Transfer Coursework*

A minimum of 27-29 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate minimum acceptable skills in ten-key, keyboarding, and document processing.
- demonstrate minimum filing competencies.
- interact effectively in oral and written communication.
- participate in office related work experience to achieve the following desirable job qualities:
  - function as a team member.
  - demonstrate interpersonal skills on the job.
  - manage multi-tasks efficiently.
  - model professional and ethical behaviors.
  - identify soft skills such as being on time.

Total Units: 27-29

**Required Courses**

Course Number	Title	Units
BSAD B252abc	Computer Keyboarding, Parts 1-2-3	3.0
BSAD B287	Filing	1.5
BSAD B85/B285	Business English	3.0
COMP B5	Introduction to Microsoft Office	3.0
BSAD B264	Ten-Key Proficiency	0.5
BSAD B53a	Introduction to Accounting	3.0
BSAD B5	Human Relations/People Skills	3.0
BSAD B88	Office Procedures	3.0
BSAD B253abc	Document Processing, Part 1-2-3	3.0

BSAD B280	Machine Transcription	1.5
	-or-	
WEXP B248	Occupational Work Experience Education	1-3.0
	-or-	
WEXP B249	Cooperative Work Experience Education	1-3.0
BSAD B20	Introduction to Business	3.0

**Administrative Office Assistant**

**Associate in Arts**

The Administrative Office programs are designed to provide the skills and competencies needed to become an efficient, productive member of an office support team. Courses are designed to help students learn to analyze and coordinate office duties and systems, develop proficiency in the use of integrated software, and improve oral and written communication. Emphasis is placed on non-technical as well as technical skills. Students have the option of completing certificates and/or a two-year degree program. Designed to prepare the student for employment as office support staff to assist managers, executives, and professionals.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Administrative Office Assistant Associate in Arts degree.

*To Transfer Coursework*

A minimum of 30-32 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate minimum acceptable skill levels in ten-key, keyboarding, and document processing.
- interact effectively in oral and written communication.
- participate in office related work experience to achieve the following desirable job qualities:
  - function as a team member.
  - demonstrate interpersonal skills on the job.
  - manage multi-tasks efficiently.
  - model professional and ethical behaviors.
  - identify soft skills such as being on time.
  - demonstrate minimum filing competencies.

Total Units: 30-32

**Required Courses**

Course Number	Title	Units
BSAD B252abc	Computer Keyboarding, Parts 1-2-3	3.0
BSAD B253abc	Document Processing, Parts 1-2-3	3.0
BSAD B287	Filing	1.5
BSAD B85/B285	Business English	3.0
BSAD B88	Office Procedures	3.0
BSAD B5	Human Relations/People Skills	3.0
COMP B5	Introduction to Microsoft Office	3.0
BSAD B53a	Introduction to Accounting I	3.0
BSAD B264	Ten-Key Proficiency	0.5
BSAD B280	Machine Transcription	1.5
	-or-	
WEXP B248	Occupational Work Experience Education	1-3.0
	-or-	
WEXP B249	Cooperative Work Experience Education	1-3.0
BSAD B20	Introduction to Business	3.0
BSAD B65	Principles of Organizational Communication	3.0

**Bookkeeping  
Certificate of Achievement**

The Bookkeeping program provides students with the knowledge and skills necessary for employment and growth in the accounting profession. Using the language of business, accountants assemble and analyze, process, and communicate essential information about financial operations.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Bookkeeping Certificate of Achievement.

*To Transfer Coursework*

A minimum of 25.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- analyze and record financial transactions in a manual or computerized general ledger system.
- communicate financial information effectively within a business environment.
- process payroll transactions in accordance with current payroll reporting requirements.
- prepare financial statements; analyze and prepare financial information for management decision-making.
- utilize current income tax resources to prepare personal income tax returns.

*Total Units: 25.5*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
BSAD B53a	Introduction to Accounting 1	3.0
BSAD B53b	Introduction to Accounting 2	3.0
BSAD B54	Payroll Accounting	3.0
BSAD B55	Computer Accounting Applications	3.0
BSAD B51	Business Mathematics	3.0
BSAD B264	Ten-Key Proficiency	0.5
BSAD B252a	Computer Keyboarding, Part 1	1.0
BSAD B20	Introduction to Business	3.0
COMP B5	Introduction to Microsoft Office	3.0
BSAD B5	Human Relations/People Skills	3.0

**Business Administration  
Associate in Arts**

The general purpose of the program in Business Administration at the university and state college is twofold. First, it is organized to help students to develop a broad understanding of our economy and our society in order to serve as a basis for responsible administrative and executive positions in business and government. Second, it offers the opportunity for students to acquire skills in specialized and professional types of employment. Since requirements vary, the current catalog of the chosen college or university should be consulted for specific requirements of the School of Business Administration. This suggested program will meet most of the lower division requirements at the California state colleges and universities as well as fulfilling the major requirements for the Associate in Arts degree from Bakersfield College.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in

each course, the student will be awarded a Business Administration Associate in Arts degree.

*To Transfer Coursework*

A minimum of 25-26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- analyze and record financial transactions in a manual or computerized general ledger system.
- prepare financial statements; analyze and prepare financial information for management decision-making.
- communicate financial information effectively within a business environment.

*Total Units: 25-26*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
BSAD B1	Financial Accounting	4.0
BSAD B2	Managerial Accounting	4.0
COMP B5	Introduction to Microsoft Office	3.0
	-or-	
COMP B2	Introduction to Computer Information Systems	3.0
	-or-	
COMP B3	Computer Concepts and Survival Skills	3.0
ECON B1	Principles of Economics-Micro	3.0
ECON B2	Principles of Economics-Macro	3.0
MATH B23	Finite Mathematics	3.0
	-or-	
MATH B2	Basic Functions and Calculus for Business	4.0
	-or-	
MATH B6A	Analytic Geometry/Calculus I	4.0
MATH B22	Elementary Probability and Statistics	4.0

**General Business**

**Job Skills Certificate**

A Job Skills Certificate in General Business will provide the student with broad-based knowledge and skills in business. These core classes provide the foundation for a variety of successful careers in business.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a General Business Job Skills Certificate.

*To Transfer Coursework*

A minimum of 12 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- analyze and record financial transactions in a manual or computerized general ledger system.
- perform the duties of a supervisor or middle level manager
- effectively communicate within an organization in both written and oral media.
- make legal and ethical decisions that achieve organizational objectives.

Total Units: 12

### Required Courses

Course Number	Title	Units
BSAD B5	Human Relations/People Skills	3.0
BSAD B20	Introduction to Business	3.0
COMP B5	Introduction to Microsoft Office	3.0
BSAD B53a	Introduction to Accounting 1	3.0
	-or-	
BSAD B1	Financial Accounting	4.0

### Retail Management

#### Certificate of Achievement

A Certificate of Achievement in Retail Management is designed to prepare students for entry-level employment. The Certificate will provide the student with broad-based knowledge and skills in retailing including grocery chains. This foundation can be built into many successful careers. The certificate is approved by members of the Western Association of Food Chains, all the major supermarket chains in the western 13 states. It encompasses several business essentials, including the soft skills of management and communication required for career success in the retail food industry.

#### To Achieve the Certificate of Achievement

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Retail Management Certificate of Achievement.

#### To Transfer Coursework

A minimum of 30-31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- perform the duties of a supervisor or middle level manager.
- analyze and record financial transactions in a manual or computerized general ledger system.
- effectively communicate within an organization in both written and oral media.
- make legal and ethical decisions that achieve organizational objectives.

Total Units: 30-31

### Required Courses

Course Number	Title	Units
COMM B1	Public Speaking	3.0
	-or-	
COMM B7	Organizational Communication	3.0
BSAD B65	Principles of Organizational Communication	3.0
BSAD B51	Business Mathematics	3.0
COMP B5	Introduction to Microsoft Office	3.0
BSAD B9	Fundamentals of Marketing	3.0
BSAD B43	Principles of Management	3.0
BSAD B53a	Introduction to Accounting 1	3.0
	-or-	
BSAD B1	Financial Accounting	4.0
BSAD B90	Fundamentals of Retailing	3.0
BSAD B5	Human Relations/People Skills	3.0
BSAD B61	Human Resources Management	3.0

## Chemistry

### Chemistry

#### Associate in Science

The Associate of Science in Chemistry is appropriate for students interested in transferring to a four-year university as a major in the sciences. The major will provide students with a complete general education in math and core physical sciences as well as an introduction to some basic computer systems skills. Additionally, the degree provides the student employment opportunities within local industries as a laboratory technician. Career opportunities in Chemistry for transfers, are varied and broad, ranging from all chemical industries, physics, all other areas of the physical sciences, engineering, and all areas of the biological sciences and allied health fields. Examples of local industries include: agriculture, geo and petrochemical businesses, analytical services and laboratories.

#### To Achieve the Associate in Science

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Chemistry Associate in Science degree.

#### To Transfer Coursework

A minimum of 38 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- demonstrate a knowledge of and recognize the processes that explain natural phenomena.
- apply the methodologies of science when approaching a problem.
- apply logical quantitative and qualitative reasoning in solving problems.

Total Units: 38

### Required Courses

Course Number	Title	Units
CHEM B1a	General Chemistry I	5.0
CHEM B1b	General Chemistry & Chemical Analysis	5.0
CHEM B18	Elementary Organic Chemistry	5.0
MATH B6a	Analytic Geometry & Calculus I	4.0
MATH B6b	Analytic Geometry & Calculus II	4.0
MATH B6c	Calculus III	4.0
COMP B2	Introduction to Computer Information Systems	3.0

### Plus 8 units from the following

Course Number	Title	Units
PHYS B4a*	Mechanics & Wave Motion	4.0
	-and-	
PHYS B4b*	Heat, Electricity & Magnetism	4.0
	-or-	
PHYS B2a and	General Physics-Mechanics & Heat	4.0
PHYS B2b	General Physics-Sound, Light, Electricity, Magnetism, Modern Physics	4.0

### Electives

Course Number	Title	Units
PHYS B4c*	Optics & Modern Physics	4.0
BIOL B3b	General Biology II	5.0
	-or-	
BIOL B16	General Microbiology	5.0



**Suggested Program for Chemistry Associate in Science****First Semester**

Course Number	Title	Units
CHEM B1a	General Chemistry I	5.0
MATH B6a	Analytic Geometry & Calculus I	4.0
COMP B2	Introduction to Computer Information Systems	3.0

**Second Semester**

Course Number	Title	Units
CHEM B1b	General Chemistry & Chemical Analysis	5.0
PHYS B4a*	Mechanics & Wave Motion	4.0
MATH B6b	Analytic Geometry & Calculus II	4.0

**Third Semester**

Course Number	Title	Units
CHEM B18	Elementary Organic Chemistry	5.0
MATH B6c	Calculus III	4.0
PHYS B4b*	Heat, Electricity, & Magnetism	4.0
	-or-	
PHYS B2a	General Physics-Mechanics & Heat	4.0

**Fourth Semester**

Course Number	Title	Units
PHYS B4c*	Optics & Modern Physics	4.0
PHYS B2b	General Physics-SLEMMP	4.0

Note: BIOL B3b no longer has BIOL B3a as prerequisite.

The courses in physics (PHYS B4a, B4b, B4c), math (MATH B6a through MATH B6c) and chemistry (CHEM B1a and B1b) are required as preparation for the major in chemistry at most transfer colleges and universities. See [www.assist.org](http://www.assist.org) for specific major preparation courses for the CSUs and UCs. Two courses in English composition (ENGL B1a and ENGL B2 or PHIL B9) as well as general education courses are also required. Please consult with a counselor for more specific information and study the catalog of the senior institution to which you intend to transfer.

**Child Development****Child Development Assistant Teacher****Job Skills Certificate**

This course work meets the requirements for the Child Development Assistant Teacher Permit. Career opportunities in Child Development include Assistant Child Development Teacher.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Development Assistant Teacher Job Skills Certificate.

*To Transfer Coursework*

A minimum of 6 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate a developmentally appropriate curriculum.
- be employable as an assistant teacher in a private child development program.

Total Units: 6

**Required Courses**

Course Number	Title	Units
CHDV B36	Developmentally Appropriate Curriculum	3.0
CHDV B20	Principles and Practices	3.0

**Child Development Associate Teacher****Job Skills Certificate**

This course work meets the requirements for the Child Development Associate Teacher Permit. This course work also meets the Child Development requirements for a fully qualified teacher in a licensed Preschool Child Development Center or School-Age Center.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Development Associate Teacher Job Skills Certificate.

*To Transfer Coursework*

A minimum of 12 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- be able to articulate 12 units with California State University, Bakersfield.
- be employable as an associate teacher in a publicly funded or private child development program.
- will have pediatric CPR and First Aid certification.

Total Units: 12

**Required Courses**

Course Number	Title	Units
CHDV B20	Principles and Practices	3.0
CHDV B36	Developmentally Appropriate Curriculum	3.0
CHDV B42	Child, Family and Community	3.0
CHDV B49	Child Health, Safety and Nutrition	3.0

**Child Development Teacher****Certificate of Achievement**

This course work meets the Child Development requirements for the Child Development Teacher Permit. Students may apply for the Permit at the Kern County Superintendent of Schools, Office of Credentials, (661) 636-4750 or (661) 636-4751. Students must also meet the General Education requirement and Experience requirement in accordance with the California Commission on Teacher Credentialing.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Development Teacher Certificate of Achievement.

*To Transfer Coursework*

A minimum of 27 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- be able to articulate 12 units with California State University, Bakersfield.

- acquire a teacher permit from the State of California Teacher Commission.
- meet all requirements for the Associate in Science degree in the major.
- be employable as a teacher in publicly funded or private child development programs.
- will have pediatric CPR and First Aid certification.

Total Units: 27

**Required Courses**

Course Number	Title	Units
CHDV B21	Child Growth and Development: Birth Through Adolescence	3.0
CHDV B22	Observation and Assessment-Birth Through Adolescence	3.0
CHDV B32	Teaching in a Diverse Society	3.0
CHDV B36	Developmentally Appropriate Curriculum	3.0
CHDV B40	Creative Art, Movement, and Music Activities for Young Children	3.0
CHDV B42	Child, Family and Community	3.0
CHDV B49	Child Health, Safety, and Nutrition	3.0
CHDV B20	Principles and Practices	3.0
CHDV B41	Supervised Field Experience in Early Childhood Education	3.0

**Child Development Master Teacher - Infant Toddler**

**Certificate of Achievement**

The Certificate of Achievement for Child Development Master Teacher - Infant Toddler may be earned by taking the 27 units of child development courses required for the Child Development Teacher Certificate of Achievement and the following courses.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Development Master Teacher - Infant Toddler Certificate of Achievement.

*To Transfer Coursework*

A minimum of 32 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- be able to articulate 12 unites with California State University, Bakersfield.
- acquire a teacher permit from the Commission on Teacher Credentialing.
- meet all requirements for the Associate in Science degree in the major.
- be able to receive a job as a master teacher in a publicly funded or private child development program.
- have a pediatric CPR and First Aid certification.

Total Units: 32

**Required Courses (completion of the Child Development Teacher Certificate of Achievement plus the following)**

Course Number	Title	Units
CHDV B13c	Child Growth and Development: The Infant Toddler Years	3.0

CHDV B53a Early Childhood Education: Adult Supervision 2.0

**Child Development Master Teacher - Special Education Certificate of Achievement**

The Certificate of Achievement for Child Development Master Teacher - Special Education may be earned by taking the 28 units of child development courses required for the Child Development Teacher Certificate of Achievement and the following courses.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Development Master Teacher - Special Education Certificate of Achievement.

*To Transfer Coursework*

A minimum of 35 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- be able to articulate 12 units with California State University, Bakersfield.
- acquire a teacher permit from the Commission on Teacher Credentialing.
- meet all requirements for the Associate in Science degree in the major.
- be able to receive a job as a master teacher in a publicly funded or private child development program.
- have a pediatric CPR and First Aid certification.

Total Units: 35

**Required Courses**

Course Number	Title	Units
CHDV B33	Survey of Special Education	3.0
CHDV B52	Care of Infants and Toddlers with Disabilities	3.0
CHDV B53a	Early Childhood Education: Adult Supervision	2.0
CHDV B21	Child Growth and Development: Birth Through Adolescence	3.0
CHDV B22	Observation and Assessment-Birth Through Adolescence	3.0
CHDV B32	Teaching in a Diverse Society	3.0
CHDV B36	Developmentally Appropriate Curriculum	3.0
CHDV B40	Creative Art, Movement, and Music Activities for Young Children	3.0
CHDV B42	Child, Family and Community	3.0
CHDV B49	Child Health, Safety, and Nutrition	3.0
CHDV B20	Principles and Practices	3.0
CHDV B41	Supervised Field Experience in Early Childhood Education	3.0

**Child Development and Family Relations Associate in Science**

This program is designed to train students to work in a variety of early childhood settings. The two-year program primarily serves students desiring an early childhood background, supervised student teaching experience and fulfillment of academic requirements for a Child Development Teacher Permit.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in

each course, the student will be awarded a Child Development and Family Relations Associate in Science degree.

*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate an understanding of developmentally appropriate curriculum and explain principles and practices pertaining to child development.
- explain topics concerning the child, family, and community, and will be able to demonstrate pediatric CPR and first aid.
- compose observations and assessments on children from infancy to adolescents.
- demonstrate an understanding of the needs of infant/toddler and children with special needs, according to their mastery specialization. The master teacher will be able to design a care plan for the needs of infant and toddlers or special education children commensurate to their specialization.

Total Units: 24

**Required Courses (should be taken in order listed)**

Course Number	Title	Units
CHDV B20	Principles and Practices	3.0
CHDV B36	Developmentally Appropriate Curriculum	3.0
CHDV B42	Child, Family and Community	3.0
CHDV B49	Child Health, Safety and Nutrition	3.0
CHDV B21	Child Growth and Development: Birth Through Adolescence	3.0
CHDV B22	Observation & Assessment-Birth Through Adolescence	3.0
CHDV B32	Teaching in a Diverse Society	3.0
CHDV B41	Supervised Field Experience in Early Childhood Education	3.0

The associate degree requires completion of the general associate degree requirements - nutrition, children's literature, and recommended: physical education/dance, and music. General education requirements with a 2.0 or better GPA for a total of 60 semester units minimum.

Students interested in transferring to a four-year university must follow the CSU-GE or IGETC transfer pattern. Contact a counselor for more information on which classes meet transfer requirements.

**Communication**

**Communication**

**Associate in Arts for Transfer**

The Associate in Arts in Communication Studies for Transfer is intended for all students who plan to complete an AA in Communication studies. This degree is especially valuable for those students planning on completing a bachelor's degree in Communication or a similar major at a CSU campus because the Associate in Arts in Communication Studies for Transfer guarantees admission to the CSU system (but not to a particular campus or major). In order to earn the Associate in Arts in Communication Studies for Transfer, students must complete a minimum of 60 required semester units of CSU-transferable coursework which includes the CSU General Education or IGETC requirements with a minimum GPA of 2.0. Students transferring to a CSU campus

that does accept the Associate in Arts in Communication Studies for Transfer will be required to complete no more than 60 units after transfer to earn a bachelor's degree (unless the major is a designated high-unit major). This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements. No additional graduation requirements are required to complete this degree.

The Associate in Arts in Communication Studies for Transfer equips students with relational and presentation skills that provide a foundation for success throughout students' educational careers, business careers and personal interactions. Students learn about verbal and nonverbal channels of communication that inform, persuade, manage, interpret, direct, or influence social interaction in diverse contexts. The degree introduces students to both established and contemporary theories of human communication pertaining to societal construction, maintenance, and perpetuation of acceptable patterns of communicative conduct. Students choosing this degree also acquire pragmatic communication skills enabling them to competently navigate social interaction within interpersonal, small group, public, organizational, and intercultural contexts. Students learn field-specific nomenclature as well as effective oral, listening, and critical thinking skills needed to successfully manage communication encounters in a variety of professional and personal environments. Students will be prepared in this lower division work for a baccalaureate degree in Communication Studies, Speech Communication, or a similar degree.

*To Achieve the Associate in Arts for Transfer*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Communication Studies Associate in Arts for Transfer degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- form and present informative persuasive messages.
- demonstrate competence in both active and empathic listening.
- present oral messages to appropriate audiences and adhere to conventions of message delivery.
- manager personal communication apprehension and anxiety.

**Required Core Courses**

Course Number	Title	Units
COMM B1*	Public Speaking	3.0

Group A (any two of the following courses)

Course Number	Title	Units
COMM B2*	Interpersonal Communication	3.0
COMM B5*	Argumentation and Rhetoric	3.0
COMM B8*	Small Group Communication	3.0

Group B (any two of the following or any Group A course not used)

Course Number	Title	Units
COMM B4*	Persuasive Communication	3.0
COMM B6*	Intercultural Communication	3.0
COMM B7*	Organizational Communication	3.0
COMM B21	Oral Interpretation	3.0

Group C (any one of the following or any Group A or B course not used)

Course Number	Title	Units
COMM B9	Health Communication	3.0
COMM B10	Communication and Leadership	3.0
ENGL B2	Advanced Composition and Critical	4.0
JRNL B1	Media and Society	3.0
JRNL B2	Beginning Reporting Thinking	3.0
PSYC B1a	General Psychology	3.0
SOCI B1	Introduction to Sociology	3.0
Required Subtotal		18.0
CSU General Education or IGETC Pattern:		39.0
Transfer Electives (as needed to reach 60 transferable units)		
Degree Total		60.0

*\*Courses with an asterisk can be double counted for General Education*

## Communication

### Certificate of Achievement

The Communication Certificate is designed to enhance a student's ability to communicate in social, professional, and relational contexts. This certificate is intended to enhance the communication skills of students from all majors and career plans. Students are required to take four classes for a total of twelve units.

#### To Achieve the Certificate of Achievement

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Communication Certificate of Achievement.

#### To Transfer Coursework

A minimum of 12 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- construct, use, and interpret messages across multiple channels to inform, persuade, manage, negotiate, relate, and generally influence each other within and across varying cultural venues.
- identify and value disparate systems of social norms and values that influence the human communicative process.
- understand the various theoretical and pragmatic skills that enable them to navigate social interaction within multiple interpersonal, small group, public, and intercultural contexts.
- become familiar with both field-specific nomenclature as well as effective oral, listening, and critical thinking skills.

Total Units: 12

### Required Courses (select 12 units from the following)

Course Number	Title	Units
COMM B1	Public Speaking	3.0
COMM B2	Interpersonal Communication	3.0
COMM B4	Persuasive Communication	3.0
COMM B5	Rhetoric and Argumentation	3.0
COMM B6	Intercultural Communication	3.0
COMM B7	Organizational Communication	3.0
COMM B8	Small Group Communication	3.0
COMM B10	Leadership and Communication	3.0

## Computer Studies

### Computer Information Systems

#### Certificate of Achievement

Designed for the student who plans to specialize in business computer applications.

#### To Achieve the Certificate of Achievement

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Computer Information Systems Certificate of Achievement.

#### To Transfer Coursework

A minimum of 31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- set up, run, and administer various operating systems, including both GUI and command line interfaces.
- set up, configure and administer computer networks.
- use established industry techniques to debug and compile programming code.
- effectively implement programming constructs, including functions, control structures, arrays, classes and objects.
- implement valid database design techniques in the context of software development.
- utilize appropriate tools and concepts in the development of web-based software.
- effectively use the terminology and language of software engineering to communicate.
- utilize both server and client side scripting and programming in the development of software solutions.
- utilize working knowledge of effective business and accounting principles to develop effective technology solutions.

Total Units: Minimum of 31

### Required Courses

Course Number	Title	Units
COMP B2	Introduction to Computer Information Systems	3.0
-or-		
COMP B3	Computer Concepts & Survival Skills	3.0
COMP B5	Introduction to Microsoft Office	3.0
COMP B32	Programming with Visual Basic	3.0
COMP B34	SQL and Database Systems Design	3.0
COMP B37	Introduction to Geographic Information Systems (GIS)	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
BSAD B1	Financial Accounting	4.0
-or-		
BSAD B53a	Introduction to Accounting	3.0
-and-		
BSAD B20	Introduction to Business	3.0

### Programming Emphasis (select 9 units from the following)

Course Number	Title	Units
COMP B14	Introduction to Programming with Java	3.0
COMP B25	Programming with C	3.0
COMP B35	OOP and Data Structures with C++	3.0
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0

COMP B74c	Web Programming: JavaScript/CSS	3.0
-----------	---------------------------------	-----

**Networking Emphasis (select 10 units from the following)**

Course Number	Title	Units
COMP B41	Introduction to Linux	3.0
COMP B93	Microsoft Active Directory Services (MCSE 70-219 Exam Prep)	3.0
COMP B100	Computer Hardware Diagnostics	4.0

**Business Emphasis (select 9 units from the following)**

Course Number	Title	Units
BSAD B2	Managerial Accounting	4.0
BSAD B20	Introduction to Business	3.0
MATH B22	Elementary Probability and Statistics	5.0

**Computer Information Systems**

**Associate in Arts**

Designed for the student who plans to transfer to California State University system or private colleges as a computer information systems, management information systems, or data processing major. Provides an emphasis in business computer applications with a broad educational background.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Computer Information Systems Associate in Arts degree.

*To Transfer Coursework*

A minimum of 23-24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- use established industry techniques to debug and compile programming code.
- set up, configure and administer computer networks.
- effectively use the terminology and language of software engineering to communicate.
- set up, run, and administer various operating systems, including both GUI and command line interfaces.
- effectively implement programming constructs, including functions, control structures, arrays, classes and objects.
- utilize appropriate tools and concepts in the development of web-based software.
- utilize both server and client side scripting and programming in the development of software solutions.
- implement valid database design techniques in the context of software development.
- utilize working knowledge of effective business and accounting principles to develop effective technology solutions.

Total Units: Minimum of 23-24

**Required Courses**

Course Number	Title	Units
COMP B2	Introduction to Computer Information Systems	3.0
	-or-	
COMP B3	Computer Concepts & Survival Skills	3.0
	-or-	

COMP B5	Introduction to Microsoft Office	3.0
COMP B14	Introduction to Programming with Java	3.0
COMP B35	OOP and Data Structures with C++	3.0
COMP B32	Programming with Visual Basic	3.0
BSAD B1	Financial Accounting	4.0
MATH B22	Elementary Probability and Statistics	5.0
	-or-	
PSYC B5	Elementary Statistics for the Behavioral and Social Sciences	5.0
COMP B34	SQL and Database Systems Design	3.0

**Suggested Courses**

Course Number	Title	Units
COMP B5	Introduction to Microsoft Office	3.0
COMP B25	Programming with C	3.0
COMP B35	OOP and Data Structures with C++	3.0
COMP B37	Introduction to Geographic Information Systems (GIS)	3.0
COMP B41	Introduction to Linux	3.0
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0
COMP B74c	Web Programming: JavaScript/CSS	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
COMP B93	Microsoft Active Directory Services (MCSE 70-219 Exam Prep)	3.0
MATH B2	Basic Functions and Calculus for Business	5.0
BSAD B2	Managerial Accounting	4.0
BSAD B20	Introduction to Business	3.0
ECON B1	Principles of Economics-Micro	3.0
ECON B2	Principles of Economics-Macro	3.0
BSAD B43	Principles of Organization and Management	3.0
BSAD B9	Fundamentals of Marketing	3.0
COMM B1	Public Speaking	3.0

**Computer Information Systems**

**Associate in Science**

Designed for the student who plans to specialize in business computer applications. The student will learn professional skills leading to employment and will gain a broad educational background. Provides a foundation for further studies in computer information systems, management information systems, or data processing.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Computer Information Systems Associate in Science.

*To Transfer Coursework*

A minimum of 36 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- effectively implement programming constructs, including functions, control structures, arrays, classes and objects.
- utilize both server and client side scripting and programming in the development of software solutions.
- implement valid database design techniques in the context of software development.
- effectively use the terminology and language of software engineering to communicate.
- utilize appropriate mathematical concepts and tools in the

- development of solutions to software problems.
- utilize appropriate tools and concepts in the development of web-based software.
- use established industry techniques to debug and compile programming code.
- write programs that make use of the principles and techniques of object-oriented programming.

Total Units: Minimum of 36

**Required Courses**

Course Number	Title	Units
COMP B2	Introduction to Computer Information Systems	3.0
	-or-	
COMP B3	Computer Concepts & Survival Skills	3.0
COMP B5	Introduction to Microsoft Office	3.0
COMP B32	Programming with Visual Basic	3.0
COMP B14	Introduction to Programming with Java	3.0
	-or-	
COMP B35	OOP and Data Structures with C++	3.0
COMP B34	SQL and Database Systems Design	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
BSAD B1	Financial Accounting	4.0

**Programming Emphasis (select 9 units from the following)**

Course Number	Title	Units
COMP B25	Programming with C	3.0
COMP B35	OOP and Data Structures with C++	3.0
COMP B37	Introduction to Geographic Information Systems (GIS)	3.0
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0
COMP B74c	Web Programming: JavaScript/CSS	3.0

**Networking Emphasis (select 9 units from the following)**

Course Number	Title	Units
COMP B41	Introduction to Linux	3.0
COMP B93	Microsoft Active Directory Services (MCSE 70-219 Exam Prep)	3.0
COMP B100	Computer Hardware Diagnostics	4.0

**Business Emphasis (select 9 units from the following)**

Course Number	Title	Units
BSAD B2	Managerial Accounting	4.0
BSAD B20	Introduction to Business	3.0
ART B20	Digital Art I - Vector Art	3.0

**Suggested Courses**

Course Number	Title	Units
MATH B2	Basic Functions and Calculus for Business	5.0
ECON B1	Principles of Economics-Micro	3.0
ECON B2	Principles of Economics-Macro	3.0
BSAD B43	Principles of Organization and Mgt.	3.0
BSAD B9	Fundamentals of Marketing	3.0
COMM B1	Public Speaking	3.0

**Computer Science**

**Certificate of Achievement**

Designed for the student who plans to specialize in math, science, or engineering computer applications.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Computer Science Certificate of Achievement.

*To Transfer Coursework*

A minimum of 36 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- effectively implement programming constructs, including functions, control structures, arrays, classes, and objects.
- utilize appropriate tools and concepts in the development of web-based software.
- utilize both server and client side scripting and programming in the development of software solutions.
- implement valid database design techniques in the context of software development.
- effectively use the terminology and language of software engineering to communicate.
- use established industry techniques to debug and compile programming code.
- write programs that make use of the principles and techniques of object-oriented programming.
- utilize appropriate mathematical concepts and tools in the development of solutions to software problems.

Total Units: Minimum of 34

**Required Courses**

Course Number	Title	Units
COMP B2	Introduction to Computer Information Systems	3.0
	-or-	
COMP B3	Computer Concepts & Survival Skills	3.0
COMP B14	Introduction to Programming with Java	3.0
COMP B25	Programming with C	3.0
COMP B32	Programming with Visual Basic	3.0
COMP B35	OOP and Data Structures with C++	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
MATH B6a	Analytic Geometry and Calculus I	4.0

**Electives — at least 12 units**

Course Number	Title	Units
COMP B5	Introduction to Microsoft Office	3.0
COMP B14	Introduction to Programming with Java	3.0
COMP B34	SQL and Database Systems Design	3.0
COMP B37	Introduction to Geographic Information Systems (GIS)	3.0
COMP B41	Introduction to Linux	3.0
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0
COMP B74c	Web Programming: JavaScript/CSS	3.0
COMP B93	Microsoft Active Directory Services (MCSE 70-219 Exam Prep)	3.0
COMP B100	Computer Hardware Diagnostics	4.0
MATH B22	Elementary Probability and Statistics	5.0

**Computer Science**

**Associate in Science**

Designed for the student who plans to transfer to California State



University system or private colleges and to specialize in computer science, math, science, or engineering applications. Students will learn professional skills leading to employment and will gain a broad educational background.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Computer Science Associate in Science.

*To Transfer Coursework*

A minimum of 35 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- effectively implement programming constructs, including functions, control structures, arrays, classes, and objects.
- utilize appropriate tools and concepts in the development of web-based software.
- utilize both server and client side scripting and programming in the development of software solutions.
- implement valid database design techniques in the context of software development.
- effectively use the terminology and language of software engineering to communicate.
- use established industry techniques to debug and compile programming code.
- write programs that make use of the principles and techniques of object-oriented programming.
- utilize appropriate mathematical concepts and tools in the development of solutions to software problems.

Total Units: Minimum of 35

**Required Courses**

Course Number	Title	Units
COMP B2	Introduction to Computer Information Systems	3.0
	-or-	
COMP B3	Computer Concepts & Survival Skills	3.0
COMP B25	Programming with C	3.0
MATH B6a	Analytic Geometry and Calculus I	4.0
MATH B6b	Analytic Geometry and Calculus II	4.0
MATH B6c	Calculus III	4.0
MATH B22	Elementary Probability and Statistics	5.0

**Electives — at least 12 units**

Course Number	Title	Units
COMP B14	Introduction to Programming with JAVA	3.0
COMP B32	Programming with Visual Basic	3.0
COMP B34	SQL and Database Systems Design	3.0
COMP B35	OOP and Data Structures with C++	3.0
COMP B41	Introduction to Linux	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
COMP B93	Microsoft Active Directory Services (MCSE 70-219 Exam Prep)	3.0
COMP B100	Computer Hardware Diagnostics	4.0
MATH B6d	Ordinary Differential Equations	3.0
MATH B6e	Elementary Linear Algebra	3.0

**Suggested Courses**

Course Number	Title	Units
COMP B5	Introduction to Microsoft Office	3.0

COMP B37	Introduction to Geographic Information Systems (GIS)	3.0
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0
COMP B74c	Web Programming: JavaScript/CSS	3.0
PHYS B2a	General Physics-Mechanics and Heat	4.0
PHYS B2b	General Physics-Sound, Light Electricity, Magnetism, Modern Physics	4.0
PHIL B7	Introduction to Logic	3.0
ELET B1	Basic Electronics (DC and AC)	4.0

**Web Development**

**Certificate of Achievement**

This program is designed for the student who plans to design, create and maintain web sites and web applications. The student will learn professional skills leading to employment and will gain a broad educational background. In addition, the program provides a foundation for further studies in this and other computer-related fields.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Web Development Certificate of Achievement.

*To Transfer Coursework*

A minimum of 34 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- develop well-formed web sites using a combination of application use and coding skills.
- utilize effective design strategies to maximize the communication potential of each web site.
- utilize web programming, scripting, and interactive tools to enhance the interactivity of their web sites.

Total Units: Minimum of 34

**Required Courses**

Course Number	Title	Units
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0
COMP B74c	Web Programming: JavaScript/CSS	3.0
	-or-	
COMP B74e	Intermediate Web Development: Web Authoring Tools	3.0
COMP B75c	Web ProgrammingDevelopment: PHP	3.0
COMP B101	Web Systems and Security	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
ART B20	Digital Art I - Vector Art	3.0
BSAD B91	E - Commerce	1.0
BSAD B65	Principles of Organizational Communication	3.0

**Design Emphasis (select 9 units from the following)**

Course Number	Title	Units
ART B42	Graphic Design	3.0
ART B40	Digital Illustration	3.0
ART B24	Digital Art II - Raster Art	3.0
ART B25	Typography	3.0
JRNL B1	Media and Society	3.0

**Web Programming Emphasis (select 9 units from the following)**

Course Number	Title	Units
COMP B14	Introduction to Programming with Java	3.0
COMP B32	Programming with Visual Basic	3.0
COMP B34	SQL and Database Systems Design	3.0

**Cross-Discipline Emphasis (select 9 units from the following)**

Any combination of 9 units from the above elective classes.

**Web Development****Associate in Science**

This program is designed for the student who plans to design, create and maintain Websites. The student will learn professional skills leading to employment and will gain a broad educational background. In addition, the program provides a foundation for further studies in this and other computer-related fields.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Web Development Associate in Science degree.

*To Transfer Coursework*

A minimum of 28 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- develop well-formed web sites using a combination of application use and coding skills.
- utilize effective design strategies to maximize the communication potential of each web site.
- utilize web programming, scripting, and interactive tools to enhance the interactivity of their web sites.

*Total Units: Minimum of 28*

**Required Courses**

Course Number	Title	Units
COMP B74a	Web Design: Adobe Dreamweaver	3.0
COMP B74b	Web Design: HTML & XML	3.0
COMP B74c	Web Programming: JavaScript/CSS	3.0
	<i>-or-</i>	
COMP B74e	Intermediate Web Development: Web Authoring Tools	3.0
COMP B101	Web Systems and Security	3.0
COMP B82	CompTIA Networking Technologies-Network+	3.0
ART B20	Digital Art I - Vector Art	3.0
BSAD B91	E - Commerce	1.0

**Design Emphasis (select 9 units from the following)**

Course Number	Title	Units
ART B42	Graphic Design	3.0
ART B40	Digital Illustration	3.0
ART B24	Digital Art II - Raster Art	3.0
ART B25	Typography	3.0
JRNL B1	Media and Society	3.0

**Web Programming Emphasis (select 9 units from the following)**

Course Number	Title	Units
COMP B14	Introduction to Programming with Java	3.0
COMP B32	Programming with Visual Basic	3.0
COMP B34	SQL and Database Systems Design	3.0

**Cross-Discipline Emphasis (select 9 units from the following)**

Any combination of 9 units from the above elective classes.

**Construction****Construction Technology****Certificate of Achievement**

The requirements for the Construction Technology Certificate of Achievement are intended to provide students with the opportunity to develop skills and knowledge to enter into the diverse residential construction field. So each student can explore and design their respective career path, emphasis is placed on blending technical skill development, industrial safety with practical lab activities. Students can obtain these courses from within the Construction Technology area and from the various related disciplines (architecture, industrial drawing, industrial technology and wood technology).

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Construction Technology Certificate of Achievement.

*To Transfer Coursework*

A minimum of 26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or for certification in the department programs.

*Total Units: 26-27*

**Required Courses**

Course Number	Title	Units
ARCH B6	Materials of Construction	3.0
ARCH B55	Residential Building Codes	3.0
CNST B1	Introduction to Construction	3.0
CNST B2	Estimating and Scheduling	3.0
CNST B50a	Residential Construction	7.0
	<i>-or-</i>	
CNST B50b	Residential Construction	7.0
	<i>-or-</i>	
WEXP B249	Cooperative Work Experience Education	6.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDT B10	Occupational Readiness	3.0
	<i>-or equivalent-</i>	

WOOD B2	Furniture and Cabinetmaking	3.0
<b>Electives</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ARCH B56	Commercial Codes	3.0
AUTO B1ab	Introduction to Automotive Technology	4.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
MATH B50	Modern College Arithmetic & Pre-Algebra	4.0
WELD B1a	Introduction to the Welding Process	2.0

*Note: Students should consult with their counselors for best possible selections for their programs of study.*

**Industrial Technology, Construction Option Associate in Science**

The requirements for the Associate in Science Degree in Industrial Technology, Construction Option are intended to provide students with the opportunity to develop and blend the critical thinking skills along with the technical construction skills necessary to supervise or construct structures within the residential building profession. Course work within the construction program is designed to assist students in defining their respective career paths within the diverse and challenging construction profession. Course emphasis is placed on blending technical skill development, industrial safety with practical lab activities. Students can obtain these courses from within the Construction Technology area and from the various related disciplines (architecture, industrial drawing, industrial technology and wood technology). To compliment the individual student's academic and technical growth, students complete required General Education courses. Students working toward this degree are also encouraged to apply for the Construction Technology Certificate of Achievement. Career opportunities include entry level construction trades, estimators, construction supervisors & managers, inspectors, construction educators and Class A, B & C licensed contractors.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Industrial Technology, Construction Option Associate in Science degree.

*To Transfer Coursework*

A minimum of 26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the construction industry.
- demonstrate program solving skills used in the construction industry.
- demonstrate a deep understanding of the core material required for certification in construction technologies.

*Total Units: 26*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ARCH B55	Residential Building Codes	3.0
CNST B1	Introduction to Construction	3.0
CNST B2	Estimating and Scheduling	3.0
INDR B10	Introduction to Industrial Drawing and	

INDT B10	Graphics Occupational Readiness <i>-or equivalent-</i>	1.0 3.0
WEXP B249	Cooperative Work Experience Education <i>-or-</i>	6.0
CNST B50a	Residential Construction <i>-or-</i>	7.0
CNST B50b	Residential Construction	7.0
WOOD B2	Furniture and Cabinetmaking	3.0

**Electives — for a total of at least 26 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
ARCH B56	Building and Related Codes	3.0
ARCH B6	Materials of Construction	3.0

**Correctional Administration**

**Correctional Administration**

**Associate in Arts**

This program includes classes that will guide students toward careers in law enforcement, the courts and the law, and state, local, and private corrections. These courses have been endorsed by the Joint Apprenticeship Committee of the California Department of Corrections, California Youth Authority, and the California Correctional Peace Officers Association.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Correctional Administration Associate in Arts.

*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- identify, analyze, and apply the fundamental theories and concepts underlying the American correctional system.
- identify and describe the operational elements of the major components comprising the American prison and Jail systems.
- identify, analyze, and apply basic legal principles and rules to factual situations.
- identify and implement the principles and procedures utilized in legitimate scientific and criminal investigation.
- demonstrate multicultural awareness and respect for constitutional and human rights.
- identify, analyze, and apply the ethical components of discretionary decision-making in probation, parole, and institutional corrections.
- demonstrate respect for the dignity and humanity of victims, perpetrators, and wrongfully convicted persons.
- demonstrate the ability to communicate effectively orally and in writing.

*Total Units: 24*

**Required Courses**

Course Number	Title	Units
CRIM B21	Introduction to Correctional Administration	3.0
CRIM B50	Criminal Justice Report Writing	3.0
CRIM B60	Legal Aspects of Corrections	3.0
CRIM B2	Criminal Law	3.0
CRIM B12	Forensic and Scientific Aspects of Evidence	3.0
CRIM B55	Special Topics in Criminal Justice	3.0

**Electives — at least 6 units**

Course Number	Title	Units
CRIM B22	Institutional Treatment and Supervision of Offenders	3.0
CRIM B23	Fundamentals of Interviewing & Counseling	3.0
CRIM B24	Probation, Parole & Community Corrections	3.0
CRIM B5	Community Relations	3.0
CRIM B8	Criminal Investigation	3.0
CRIM B9	Juvenile Justice System	3.0

**Criminal Justice**

*Criminal Justice*

**Associate in Arts**

This program includes classes that will guide students toward careers in law enforcement and policing, the courts and the law, and state, local, and private corrections.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Criminal Justice Associate in Arts degree.

*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- identify, analyze, and apply the fundamental theories and concepts underlying the American criminal justice system
- identify and describe the operational elements of the major components comprising the American justice system
- identify, analyze, and apply basic legal principles and rules to factual situations

Total Units: 24

**Required Courses**

Course Number	Title	Units
CRIM B1 I	Introduction to Criminal Justice	3.0
CRIM B2	Criminal Law	3.0
CRIM B3	Introduction to Evidence	3.0
CRIM B4	Constitutional Criminal Procedure	3.0
CRIM B12	Forensic and Scientific Aspects of Evidence	3.0
CRIM B55	Special Topics in Criminal Justice	3.0

**Electives — at least 6 units**

Course Number	Title	Units
CRIM B5	Community Relations	3.0
CRIM B8	Criminal Investigation	3.0
CRIM B9 J	Juvenile Justice System	3.0
CRIM B10	Organized Crime	3.0

CRIM B24	Probation, Parole & Community Corrections	3.0
CRIM B50	Criminal Justice Report Writing	3.0

**Economics**

*Economics*

**Associate in Arts**

The major in economics is designed for students interested in preparing for advanced degrees in Economics, Business, Law and for those students concerned with the economic behavior of consumers, businesses, and governments. Economics majors have a wide variety of career opportunities in business, law, journalism, education, politics, finance and banking, government, public and private overseas service, and labor leadership. Many economics majors go on to pursue graduate study in a related professional area, such as law, business, or public administration.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Economics Associate in Arts degree.

*To Transfer Coursework*

A minimum of 17 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- develop competence in quantitative methods and computing methods.
- evaluate alternative policies intended to enhance economic outcomes.
- conceptualize and analyze problems using the tools of economic theory and communicate the results.

Total Units: 17

**Required Courses**

Course Number	Title	Units
ECON B1	Principles of Economics-Micro	3.0
ECON B2	Principles of Economics-Macro	3.0
MATH B2	Basic Functions and Calculus for Business	4.0
MATH B22	Elementary Probability and Statistics	4.0
COMP B2	Introduction to Computer Information Systems	3.0

**Electives**

Course Number	Title	Units
ENGL B1a	Expository Composition	3.0
PHIL B7	Introduction to Logic	3.0
HIST B17b	History of the U.S. Since 1877	3.0
POLS B1	American Government: National, State and Local	3.0
PSYC B1a	General Psychology	3.0
BSAD B1	Financial Accounting	4.0
BSAD B2	Managerial Accounting	4.0
COMM B1	Public Speaking	3.0
MATH B23	Finite Mathematics	3.0

## Electronics Technology

### Electronics Technology

#### Certificate of Achievement

The Bakersfield College Electronics Certificate program will show the world that you have gained the necessary knowledge and skills to perform better on the job. This program of study is widely recognized and modeled after local industry competency standards. A certified electronic professional often appears more dedicated, more skilled and thus more attractive to prospective employers. Program includes study in the following areas: Electrical theory and components, soldering, wiring diagrams, safety, advanced analog semiconductor and digital devices, power supplies, test equipment, programmable logic controllers, Allen Bradley SLC 500 and CLX 5000 Instrumentation, temperature, pressure, level detectors, radio communications, antenna and transmission lines, telecommunications, video, data, network technology, motor theory and wiring, computer integrated manufacturing, installation and wiring standards, and mechanical systems.

Career opportunities in Electronics Technology include entry level positions in petroleum/energy, manufacturing automation, instrumentation/process control, logistics and distribution, ancillary services, telecommunications, radio communications, food and materials processing, and industrial maintenance.

#### To Achieve the Certificate of Achievement

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Electronics Technology Certificate of Achievement.

#### To Transfer Coursework

A minimum of 33 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or for certification in the department programs.

Total Units: 33

#### Required Courses

Course Number	Title	Units
ELET B1	Basic Electronics (DC and AC)	4.0
ELET B5	Programmable Logic Controllers	3.0
ELET B6	Analog and Digital Electronics	3.0
ELET B55a	Electric Motors-Controls	4.0
ELET B56	Instrumentation & Process Control	3.0
ELET B61	Telecommunications	3.0
ELET B62	Radio Communications	3.0
ELET B70	Mechanical Systems	3.0
INDT B10	Occupational Readiness	3.0
-or equivalent-		

#### Electives — at least 4 units

Course Number	Title	Units
ELET B4	Computer Integrated Manufacturing	3.0
ELET B63	Electronic Systems Installation	3.0
INDR B11	Introduction to Computer Aided Drafting	

	and Design (CAD)	1.0
MFGT B1ab	Machine Tool Processes	3.0

### Electronics - Industrial Automation

#### Job Skills Certificate

The Bakersfield College Electronics Certificate program will show the world that you have gained the necessary knowledge and skills to perform better on the job. This program of study is widely recognized and modeled after local industry competency standards. A certified electronic professional often appears more dedicated, more skilled and thus more attractive to prospective employers.

Program includes study in the following areas: electrical theory and components, soldering, wiring diagrams, safety programmable logic controllers, Allen Bradley slc 500 and clx 5000 computer integrated manufacturing. This program prepares students for careers in electronics technology.

Entry level positions in petroleum/energy, manufacturing automation, process control, logistics and distribution, material processing, and industrial maintenance.

#### Program Learning Outcomes

Upon successful completion, the student will:

- demonstrate proficiency in automation programming/troubleshooting related to programmable logic controllers and safety principles required for industrial employment.
- demonstrate problem solving skills used in ladder logic and sequential function charts, to include design and development of programmable logic controllers circuits.
- demonstrate an understanding of the core material and theory related to programmable automation controllers that is required for transfer to a four year university degree program or for certification.

Total Units: 9

#### Required Courses

Course Number	Title	Units
ELET B4	Computer Integrated Manufacturing	3.0
ELET B5	Programmable Logic Controllers	3.0
ELEC B58	Advanced Programmable Logic Controllers	3.0

### Electronics - Industrial Communication

#### Job Skills Certificate

The Bakersfield College Electronics Certificate program will show the world that you have gained the necessary knowledge and skills to perform better on the job. This program of study is widely recognized and modeled after local industry competency standards. A certified electronic professional often appears more dedicated, more skilled and thus more attractive to prospective employers.

Program includes study in the following areas: electrical theory and components, soldering, wiring diagrams, safety advanced analog semiconductor and digital devices, power supplies, test equipment, radio communications, antenna and transmission lines, telecommunications, video, data, network technology, and installation and wiring standards.

This program prepares students for careers in electronics technology. Entry level positions in ancillary services, telecommunications, and radio communications.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the communication field.
- demonstrate problem solving and trouble shooting skills used in multi-spectrum industrial equipment for wired and over the air systems.
- demonstrate an understanding of theory and core material related to industrial communication, radio and telecommunications, that is required for transfer to a four year university degree program or for certification.

Total Units: 9

**Required Courses**

Course Number	Title	Units
ELET B6	Analog and Digital Electronics	3.0
ELET B61	Telecommunications	3.0
ELET B62	Radio Communications	3.0

**Electronics - Industrial Maintenance**

**Job Skills Certificate**

The Bakersfield College Electronics Certificate program will show the world that you have gained the necessary knowledge and skills to perform better on the job. This program of study is widely recognized and modeled after local industry competency standards. A certified electronic professional often appears more dedicated, more skilled and thus more attractive to prospective employers.

Program includes study in the following areas: electrical theory and components, soldering, wiring diagrams, safety instrumentation, temperature, pressure, level detectors, motor theory and wiring, installation and wiring standards and mechanical systems.

This program prepares students for careers in electronics technology. Entry level positions in petroleum/energy, instrumentation/process control, logistics and distribution, ancillary services, materials processing, and industrial maintenance.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency and safe operation of motors and process control technology that is required for industrial employment.
- demonstrate trouble shooting and problem solving skills used by maintenance personnel for industrial technology related fields.
- demonstrate an understanding of instrumentation and mechanical systems for transfer to a four year university degree program or for certification.

Total Units: 10

**Required Courses**

Course Number	Title	Units
ELET B55a	Electric Motors-Controls	4.0
ELET B56	Instrumentation & Process Control	3.0
ELET B70	Mechanical Systems	3.0

**Electronics - Manufacturing Automation**

**Job Skills Certificate**

The Bakersfield College Electronics Certificate program will show

the world that you have gained the necessary knowledge and skills to perform better on the job. This program of study is widely recognized and modeled after local industry competency standards. A certified electronic professional often appears more dedicated, more skilled and thus more attractive to prospective employers. Program includes study in the following areas: electrical theory and components, soldering, wiring diagrams, safety, programmable logic controllers, instrumentation, temperature, pressure, level detectors, computer integrated manufacturing motor theory and wiring, and mechanical systems.

This program prepares students for careers in electronics technology, entry level positions in petroleum/energy, manufacturing, instrumentation/process control, logistics and distribution, ancillary services, food and materials processing, and industrial maintenance.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in manufacturing automation related skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial environments and manufacturing.
- demonstrate an understanding of industrial manufacturing and electronics that is required for transfer to a four year university degree program and certification.

Total Units: 16

**Required Courses**

Course Number	Title	Units
ELET B4	Computer Integrated Manufacturing	3.0
ELET B5	Programmable Logic Controllers	3.0
ELET B55a	Electric Motors-Controls	4.0
ELET B56	Instrumentation & Process Control	3.0
ELET B70	Mechanical Systems	3.0

**Industrial Technology, Electronics Option**

**Associate in Science**

Technology runs the planet, with electronics playing an essential role. It is a digital world, and those who understand this world can become valuable additions to technology-focused employers. The Industrial Technology Degree, Electronics Option, teaches essential skills that can be put to use as an industrial technician, electronics technician, field service representative, salesperson or computer technician. A degree holding student will also be looked at for quick promotions into supervision and management positions.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Industrial Technology, Electronics Options Associate in Science degree.

*To Transfer Coursework*

A minimum of 33 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the electronics industry.

- demonstrate problem solving skills used in electrical design and product development.
- demonstrate a deep understanding of the core material required for certification in the electronics program.

Total Units: 33

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ELET B1	Basic Electronics (DC and AC)	4.0
ELET B5	Programmable Logic Controllers	3.0
ELET B6	Analog and Digital Electronics	3.0
ELET B55a	Electric Motors-Controls	4.0
ELET B56	Instrumentation & Process Control	3.0
ELET B61	Telecommunications	3.0
ELET B62	Radio Communications	3.0
ELET B70	Mechanical Systems	3.0
INDT B10	Occupational Readiness	3.0
	<i>-or equivalent-</i>	

**Electives — at least 4 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ELET B4	Computer Integrated Manufacturing	3.0
ELET B63	Electronic Systems Installation	3.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
MFGT B1ab	Machine Tool Processes	3.0

**Emergency Medical Technology**

***Emergency Medical Technician-1 (EMT-1)***

The Emergency Medical Technician-1 (EMT-1) course consists of 152 hours, which includes 24 hours of emergency room/ambulance experience. The course prepares the student to perform basic emergency care as part of a mobile emergency team. It also provides the student with an understanding of the skills and assessment techniques needed to care for an ill or injured person in the pre-hospital setting. Upon successful completion of the course, students are eligible to take an examination for certification as an Emergency Medical Technician 1. EMT-1s are employed by ambulance companies and some private industries to provide emergency care in case of illness or injury. The course is required for ambulance personnel, the California Highway Patrol and many other first care providers. Students may later choose to become paramedics.

*Enrollment*

Enroll through the Bakersfield College Admission and Records Office. The course is offered each fall and spring two evenings per week for 16 weeks. This is a 7.5 unit course.

*Pre-admission Requirements*

1. Each student must possess a current American Heart Association BLS -Healthcare Provider card. (Bakersfield College offers a BLS course (MEDS B52).
2. Each student must be at least 18 years of age by the completion date of the course.
3. Mandatory physical examination/immunizations and fit testing must be completed 4 weeks after start of the course. Costs of meeting health requirements are paid by the student. Failure to meet these requirements will result in student ineligibility for clinical rotations.
4. Completion of the 3 unit Medical Terminology Course (MEDS B60) is strongly recommended.

*Conditional Enrollment*

As a condition of enrollment in any Allied Health Program, students are required to submit to and pass a designated drug and alcohol screening, a background screening, and physical examination clearance (at the student's expense). Please note the following:

- A history of felony conviction(s) or any bar, exclusion or other ineligibility for federal program participation could render a student ineligible for clinical placement, as determined by the clinical agencies.
- If a student cannot obtain background clearance from the clinical agencies, it will not be possible to place the student in the clinical areas, which is a required component of the program. In the event that a student cannot obtain a background clearance, the space will be forfeited. Students who are found to be ineligible for clinical placement by the clinical agency after admission to the program shall be subject to dismissal from the program, as they will be unable to complete mandatory clinical rotations.
- A physical examination completed by a physician of the student's choice is required after acceptance to the Program to demonstrate that a student meets the technical standards necessary to meet the Program objectives. Appropriate immunizations and/or vaccinations and fit testing are also required and are performed at the student's expense.

*Licensure/Certification Eligibility*

Students with a misdemeanor and/or felony arrest conviction, either current or prior, may not receive certification or licensure from the State or County. Also, proof of citizenship (social security card and certified birth certificate) and fingerprinting are required by state certification/licensure agencies. Anyone who wishes clarification may contact the Kern County Emergency Medical Services Office at (661) 868-5200. Upon successful completion of the course, students will be eligible to sit for the National Registry EMT-Basic Examination.

*Accreditation and Program Approval*

Bakersfield College is accredited by the Western Association of Schools and Colleges. The Emergency Medical Technician Program is approved by Kern County Emergency Medical Services and meets all state and county requirements.

***Emergency Medical Technician 1 (EMT-1)***

***Job Skills Certificate***

This certificate complies with state requirements and ensures that the student has met the local EMS (Kern County authority) approval for county protocol training. It is also required for ambulance personnel and some other first care providers such as law enforcement and fire personnel. The certificate provides proof of successful completion of an approved EMT-1 program which is enforcement and fire personnel. The certificate provides proof of successful completion of an approved EMT-1 program which is necessary for the student to take the national licensure exam. Students must complete the required course with at least a B grade.

Career Opportunities in Emergency Medical Technology  
Employment as an emergency medical technician with the fire department, hospitals, and a variety of healthcare settings statewide.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Emergency Medical Technician 1 (EMT-1) Job Skills Certificate.

*To Transfer Coursework*

A minimum of 7.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate the ability to comprehend, apply, and evaluate the clinical information relative to his/her role as an entry level EMT-1.
- demonstrate technical proficiency in all skills necessary to fulfill the role of the entry level EMT-1.
- demonstrate personal behaviors consistent with professional and employer expectations for the entry level EMT-1.

Total Units: 7.5

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
EMTC B50	Emergency Medical Technician I	7.5

**Engineering Engineering**

**Associate in Science**

People working in the field of engineering and related technical fields bridge the gap between scientific principles and the application of these principles to the needs of society. The field is quite diversified with exciting job opportunities for people with varied mathematic, scientific, and technical skills. An engineer uses experience and judgment, as well as advanced training in engineering, science, and mathematics to formulate ideas and designs, and to determine standards, specifications, work orders and schedules so that projects can be economically beneficial to mankind. A Bachelor of Science in Engineering is required. Many engineers earn master's or doctorate degrees.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Engineering Associate in Science degree.

*To Transfer Coursework*

A minimum of 47 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- solve engineering related problems as related to student made projects and assignments.

Total Units: 47

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MATH B6a*	Analytic Geometry & Calculus I	4.0
MATH B6b	Analytic Geometry & Calculus II	4.0
MATH B6c	Calculus III	4.0
MATH B6d	Ordinary Differential Equations	3.0
CHEM B1a*	General Chemistry I	5.0
PHYS B4a	Mechanics & Wave Motion	4.0
PHYS B4b	Heat, Electricity, & Magnetism	4.0

PHYS B4c	Optics & Modern Physics	4.0
ENGR B17	Introduction to Electric Circuits	3.0
ENGR B36	Engineering Mechanics-Statics	3.0
ENGR B45	Properties of Materials	3.0
ENGR B19c	Introduction to Programming Concepts and Methodologies for Engineers	3.0
ENGR B47**	Introduction to Engineering and Design	3.0

\* May be used to also fulfill general education requirements.

\*\*Meets student development requirement.

**Engineering Technology**

**Associate in Science**

Cal Poly Pomona; California State University, Sacramento; California State University, Long Beach Engineering technologists and engineering technicians are members of a technical team that also includes scientists, engineers and craftsmen. The members of the technical team perform job functions that are complementary and sometimes overlapping. By virtue of their education, training and interests, engineering technologists and engineering technicians are usually differentiated as follows: An engineering technologist uses applied and basic training in mathematics, science, and engineering classes, engineering methods learned through classes and experience, and developed technical (hands-on) skills in direct support of engineering activities. A Bachelor of Science degree in Engineering Technology is required. An engineering technician operates in a support role to aid in design, production, manufacturing, operations, and maintenance.

Under professional direction, the engineering technician conducts tests, trouble shooting and analysis, and other similar projects, or carries out functions such as drafting, surveying, designing and technical sales. An Associate in Science degree or a Certificate of Engineering Technology is required.

Bakersfield College offers courses required for two years of engineering technology education. Completion of these courses, called the engineering technology core prepares students either for transfer to the colleges and universities offering bachelor's degrees in Engineering Technology, or for completion of an Associate in Science degree in Engineering Technology. A beginning engineering technology student should have completed high school mathematics through intermediate algebra or MATH BD at Bakersfield College, one year of high school drafting, and be eligible for ENGL B50.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Engineering Technology Associate in Science degree.

*To Transfer Coursework*

A minimum of 40 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment as an engineering technologist.
- demonstrate problem solving skills used in engineering technology design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program in engineering technology.



Total Units: 40

**Required Courses**

Course Number	Title	Units
ENGR B47**	Introduction to Engineering and Design	3.0
ENGR B45	Properties of Materials	3.0
ENGR B24	Engineering Graphics and Descriptive Geometry	2.0
INDR B10	Introduction to Industrial Drawing & Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
CHEM B2a*	Introductory General Chemistry	4.0
PHYS B2a*	General Physics-Mechanics and Heat	4.0
PHYS B2b	General Physics-Sound, Light, Electricity, Magnetism, Modern Physics	4.0
MATH B6ab*	Analytic Geometry and Calculus	8.0
ENGR B19c	Introduction to Programming Concepts and Methodologies for Engineers	3.0

\* May be used to also fulfill general education requirements

\*\*Meets student development requirement

**Electives — at least 7 units from the following**

See counselor or advisor for specific courses in the following areas:

- Electronics/Electrical Technology
- Construction Technology
- Manufacturing Processes Technology
- Welding/Fabrication
- Industrial Drawing
- Graphics

**English**

Studies in English provide preparation for the professions, government service, and politics. Career opportunities in English include teaching, journalism, publishing, advertising, and copywriting.

Students seeking an associate degree must take the writing course English B1a and may take a literature class to fulfill the humanities requirement. Students seeking a bachelor's degree should take English B1a and may take English B1b and other literature courses to fulfill specific General Education requirements. Students planning to major in English should take English B1a and B1b and at least two of the following: English B5a, B5b, B20a, B20b, B30a, B30b. Students planning to transfer to the University of California should consider English B2. For specific information, students should consult the catalog of the school to which they intend to transfer.

**English**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an English Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- write logical and coherent expository and argumentative

papers, essays, summaries, and paraphrases using correctly the standard conventions of written English.

- demonstrate an understanding of and an ability to describe ways in which literature reflects historical, intellectual, and cultural contexts, as well as aesthetic tastes .
- evaluate literature and expository and argumentative papers and essays through application of critical thinking techniques.

Total Units: 18

**Required Courses**

Course Number	Title	Units
ENGL B1a	Expository Composition	3.0
ENGL B1b	Introduction to Types of Literature	3.0

**Plus 6 units from the following**

Course Number	Title	Units
ENGL B5a	Survey of English Literature	3.0
ENGL B5b	Survey of English Literature	3.0
ENGL B30a	Survey of American Literature	3.0
ENGL B30b	Survey of American Literature	3.0

**Electives — at least 16 units**

Course Number	Title	Units
ENGL B2	Advanced Composition & Critical Thinking	4.0
ENGL B10	Introduction to Shakespeare	3.0
ENGL B20a	Survey of World Literature	3.0
ENGL B21	African-American Literature	3.0
ENGL B27	The Bible as Literature	3.0
ENGL B28	Classical Mythology	3.0
ENGL B41a	Introduction to Creative Writing	3.0

**Fire Technology**

**Fire Technology**

**Certificate of Achievement**

This certificate was developed to assist students who desire to become a firefighter, or desire Fire Technology as a career. This certificate will aid existing firefighters in promoting/advancing through the ranks of engineer, captain, battalion chief, etc. The Bakersfield Fire Department requires an associate degree before a captain can take the promotional exam for battalion chief. This course of study will transfer to a four-year institution.

Note: FIRE B1 is a prerequisite and must be completed before taking other core fire technology courses. FIRE B1 can be waived if the student has completed either academy (B62 or B63) and B2 can be waived for students who have a minimum of two years continuous experience as a full-time paid firefighter. A GPA of at least 2.0 is required in the fire technology program. Of the 30 units required, a minimum of 12 units must be completed at Bakersfield College.

Bakersfield College's Regional Fire Technology Academy (RFTA) was authorized by the California Fire Service Training and Education System in 1980, with programs of study leading to Certified Fire and Certified Fire Chief. RFTA sponsors many cooperative training programs with federal, state, and local fire protection agencies. Individuals may develop a program suitable to their career goals with the aid of a college counselor. Courses may lead to the achievement of specific career goals, immediate employment, an associate degree, or transfer credits that satisfy requirements for a bachelor's degree in Fire Technology.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Fire Technology Certificate of Achievement.

*To Transfer Coursework*

A minimum of 37-39 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- identify minimum qualifications and entry-level skills for fire fighter hiring.
- describe the following elements:
  - application process.
  - written exam process.
  - physical agility exam.
  - oral interview.
  - chief's interview.
  - background investigation.
  - fire fighter probationary process.
- identify fire service history, culture, and diversity.
- demonstrate the ability to analyze, appraise, and evaluate fire and emergency incidents and identify components of emergency management and fire fighter safety, including:
  - size-up.
  - report on conditions.
  - Incident Command System.
  - RECEO.
  - 10 Standard Firefighting Orders.
  - 18 Situations that shout "Watch Out."
  - common factors associated with injuries and line of duty deaths.

Total Units: 37-39

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FIRE B1	Fire Protection Organization	3.0
FIRE B2	Personal Fire Safety & Emergency Action	3.0
	-or-	
FIRE B7	Building Construction for Fire Protection	3.0
FIRE B3	Fire Command, Strategy, Tactics	3.0
	-or-	
FIRE B51b	Fire Command 1A	2.0
FIRE B4	Fire Behavior and Combustion	3.0
FIRE B5	Fire Prevention Technology	3.0
	-or-	
FIRE B51d	Fire Prevention 1A	2.0
	-and-	
FIRE B51e	Fire Prevention 1B	2.0
FIRE B6	Fire Protection Equipment & Systems	3.0
FIRE B72h	Emergency Medical Technician 1	7.5

**Required General Education Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ENGL B50*	Introduction to College Composition	4.0
	-or-	
ENGL B1a	Expository Composition	3.0
PSYC B1a	General Psychology	3.0
	-or-	
SOCI B1	Introduction to Sociology	3.0
COMM B1	Public Speaking	3.0

	-or-	
COMM B2	Interpersonal Communication	3.0
	-or-	
COMM B4	Persuasive Communication	3.0
	-or-	
COMM B8	Small Group Communication	3.0

*\*ENGL B60 may be substituted for ENGL B50 or ENGL B1a for Fire Technology Certificate of Achievement only.*

Note: FIRE B1 and B2 are waived for students who have a minimum of two years service as a paid, full-time firefighter. A GPA of at least 2.0 is required in the certificate program. Of the 30 units required, a minimum of 12 units must be completed at Bakersfield College.

***Fire Technology Associate in Arts***

This degree program of study was developed to assist students who desire to become a firefighter, or desire Fire Technology as a career. This certificate will aid existing firefighters in promoting/advancing through the ranks of engineer, captain, battalion chief, etc. The Bakersfield Fire Department requires an associate degree before a captain can take the promotional exam for battalion chief. This course of study will transfer to a four-year institute.

Note: FIRE B1 is a prerequisite and must be completed before taking other core fire technology courses. FIRE B1 can be waived if the student has completed either academy (B62 or B63) and B2 can be waived for students who have a minimum of two years continuous experience as a full-time paid firefighter. A GPA of at least 2.0 is required in the fire technology program. Of the 30 units required, a minimum of 12 units must be completed at Bakersfield

Bakersfield College's Regional Fire Technology Academy (RFTA) was authorized by the California Fire Service Training and Education System in 1980, with programs of study leading to Certified Fire and Certified Fire Chief. RFTA sponsors many cooperative training programs with federal, state, and local fire protection agencies. Individuals may develop a program suitable to their career goals with the aid of a college counselor. Courses may lead to the achievement of specific career goals, immediate employment, an associate degree, or transfer credits that satisfy requirements for a bachelor's degree in Fire Technology.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Fire Technology Associate in Arts degree.

*To Transfer Coursework*

A minimum of 25.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- identify minimum qualifications and entry-level skills for fire fighting hiring.
- demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents.
- identify and comprehend laws, regulations, codes and standards that influence fire department operations and identify regulatory and advisory organizations that create and mandate them, especially in the areas of fire prevention, building codes and ordinances, and firefighter health and

safety.

- analyze the causes of fire, determine extinguishing agents and methods, differentiate the stages of the fire and fire development, and compare methods of heat transfer.
- identify and describe the apparatus used in the fire service, and the equipment and maintenance of fire apparatus and equipment.
- identify and describe common types of building construction and conditions associated with structural collapse and firefighter safety.
- differentiate between fire detection and fire suppression systems.

Total Units: 25.5

**Required Courses**

Course Number	Title	Units
FIRE B1	Fire Protection Organization	3.0
FIRE B2	Personal Fire Safety & Emergency Action	3.0
	-or-	
FIRE B7	Building Construction for Fire Protection	3.0
FIRE B3	Fire Command, Strategy, Tactics	3.0
FIRE B4	Fire Behavior and Combustion	3.0
FIRE B5	Fire Prevention	3.0
FIRE B6	Fire Protection Equipment & Systems	3.0
FIRE B72h	Emergency Medical Technician	7.5

**Fire Technology**

**Associate in Science**

This degree program of study was developed to assist students who desire to become a firefighter, or desire Fire Technology as a career. This certificate will aid existing firefighters in promoting/advancing through the ranks of engineer, captain, battalion chief, etc. The Bakersfield Fire Department requires an associate degree before a captain can take the promotional exam for battalion chief. This course of study will transfer to a four-year institute.

Note: FIRE B1 is a prerequisite and must be completed before taking other core fire technology courses. FIRE B1 can be waived if the student has completed either academy (B62 or B63) and B2 can be waived for students who have a minimum of two years continuous experience as a full-time paid firefighter. A GPA of at least 2.0 is required in the fire technology program. Of the 30 units required, a minimum of 12 units must be completed at Bakersfield.

Bakersfield College's Regional Fire Technology Academy (RFTA) was authorized by the California Fire Service Training and Education System in 1980, with programs of study leading to Certified Fire and Certified Fire Chief. RFTA sponsors many cooperative training programs with federal, state, and local fire protection agencies. Individuals may develop a program suitable to their career goals with the aid of a college counselor. Courses may lead to the achievement of specific career goals, immediate employment, an associate degree, or transfer credits that satisfy requirements for a bachelor's degree in Fire Technology.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Fire Technology Associate in Science degree.

*To Transfer Coursework*

A minimum of 35.5 semester units in the major with a grade of 'C' or

better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- identify minimum qualifications and entry-level skills for fire fighting hiring.
- demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents.
- identify and comprehend laws, regulations, codes and standards that influence fire department operations and identify regulatory and advisory organizations that create and mandate them, especially in the areas of fire prevention, building codes and ordinances, and firefighter health and safety.
- analyze the causes of fire, determine extinguishing agents and methods, differentiate the stages of the fire and fire development, and compare methods of heat transfer.
- identify and describe the apparatus used in the fire service, and the equipment and maintenance of fire apparatus and equipment.
- identify and describe common types of building construction and conditions associated with structural collapse and firefighter safety.
- differentiate between fire detection and fire suppression systems.

Total Units: 35.5

**Required Courses**

Course Number	Title	Units
FIRE B1	Fire Protection Organization	3.0
FIRE B2	Personal Fire Safety & Emergency Action	3.0
	-or-	
FIRE B7	Building Construction for Fire Protection	3.0
FIRE B3	Fire Command, Strategy, Tactics	3.0
FIRE B4	Fire Behavior and Combustion	3.0
FIRE B5	Fire Prevention	3.0
FIRE B6	Fire Protection Equipment & Systems	3.0
FIRE B72h	Emergency Medical Technician	7.5
FIRE B51a	Fire Management 1A	2.0
FIRE B51b	Fire Command 1A	2.0
FIRE B51d	Fire Prevention 1A	2.0
FIRE B51c*	Fire Command 1B	2.0
	-and-	
FIRE B51e*	Fire Prevention 1B	2.0
	-or-	
WEXP B248	Occupational Work Experience	4.0
	-or-	
WEXP B249	Cooperative Work Experience	4.0

\*Note: Students may substitute up to 4 units of work experience credit in place of FIRE B51c and/or FIRE B51e.

**Wildland Fire Technology**

**Associate in Science**

This degree is designed for people who desire to enter or enhance their career in a state or federal wildland firefighting agency. The course material is linked with the National Multi-Agency Coordinating Group certification process. Students are given the opportunity to take several didactic and practical tests administered throughout the program to attain both state and national level wildland competencies. The core curriculum includes certification material to secure the basic wildland red card needed for employment in a wildland fire agency. Additional course

work is designed to meet or exceed the National Fire Protection Association's 1051 Standard on Wildland Fire Fighter Professional Qualifications. The elective material is designed to allow a student to obtain some degree of specialization that may tailor a student's education to qualify for supervisor positions in a wildland organization. Students may be placed in paramilitary and physically demanding environments designed to introduce the student to the job tasks and skills required to operate in the wildland fire services. Career opportunities include the Forest Service and the Bureau of Land Management. Discharged military service personnel can use their military service time towards their career in the Forest Service or the BLM.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Wildland Fire Technology Associate in Science degree.

*To Transfer Coursework*

A minimum of 30 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- differential influences affecting fire behavior.

Total Units: 30

**Required Courses**

Course Number	Title	Units
FIRE B25a	Wildland Fire Behavior	3.0
FIRE B25b	Wildland Firefighter Safety & Survival	3.0
FIRE B25c	Wildland Fire Operations	3.0
FIRE B25d	Wildland Public Information Officer, Prevention, & Investigation	3.0
FIRE B25e	Wildland Fire Logistics, Finance, & Planning	3.0

**Electives — at least 15 units**

Course Number	Title	Units
FIRE B25f	Wildland Firefighter	4.0
FIRE B25g	Wildland Engine Firefighter	3.0
FIRE B25h	Wildland Fire Dispatching	3.0
FIRE B26a	Initial Attack Incident Commander Type 4 (ICT4) (S-200)	1.0
FIRE B26d	Interagency Incident Business Management (S-260)	1.0
FIRE B26e	Fire Operations in the Wildland Urban Interface (S-215)	1.5
FIRE B26g	S-230 Crew Boss Single Resource	1.5
FIRE B26k	Field Observer (S-244)	1.5
FIRE B26m	Display Processor (S-245)	1.0
FIRE B27a	Basic Incident Command System (I-200)	1.0
FIRE B27b	I-300 Intermediate Incident Command System (I-300)	1.5
FIRE B28b	L-280 Followership to Leadership	0.5

**Chief Officer Certification (NFPA Standard 1021) Certificate of Achievement**

The Fire Chief Certification will prepare students currently employed in fire science occupations to qualify for promotions such as to Battalion Chief and higher. This training utilizes curricula developed by the California Fire Service Training and Education System (CFSTES, the training branch of the California State Fire Marshall)

and meets California Board of Fire Services standards. Certification as a CSFM Fire Officer provides in-service fire personnel the ability to promote and advance in their careers and may provide for educational pay incentives.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Chief Officer Certification (NFPA Standard 1021) Certificate of Achievement.

*To Transfer Coursework*

A minimum of 22 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- define the components of the Incident Command System.
- describe the organizational structure used within large scale hazardous materials incidents, including basic duties and responsibilities of key division positions such as incident commander, safety officer, and public information officer.
- list the common types of high-rise hazards and concerns during fire suppression operations.
- describe the history of emergency management and planning for large scale disasters.
- list command tasks and responsibilities associated with emergency operations involving wild land fires.
- analyze and write policy statements that guide fire service organizations.
- develop general personnel administration practices consistent with local, state, and federal statutory and regulatory requirements.
- describe the ten steps of the planning process.
- identify the roles and responsibilities of management personnel within the organization.
- diagram a sample Unified Command structure for a major incident simulation.

Total Units: 22

**Required Courses**

Course Number	Title	Units
FIRE B50a	Fire Command 2-Command Tactics at Major Fires	2.0
FIRE B50b	Fire Command 2b-Scene Management at Major Incidents	2.0
FIRE B50c	Fire Command 2c-High-Rise Fire Tactics	2.0
FIRE B50d	Fire Command 2d-Management of Large-Scale Disasters	2.0
FIRE B50e	Fire Command 2e-Wildland Fire Tactics	2.0
FIRE B50f	Fire Management 2a-Organizational Development and Human Relations	2.0
FIRE B50g	Fire Management 2b, Fire Service Financial Management	2.0
FIRE B50h*	Fire Management 2c-Computer Application for the Fire Service	2.0
FIRE B50i	Fire Management 2d-Master Planning	2.0
FIRE B50j	Fire Management 2e, Ethics and the Challenge of Leadership	2.0
FIRE B50k*	Fire Investigation	2.0

\*Courses are offered from State Fire Marshall's Office only.

## **Fire Officer Certification (NFPA Standard 1021) Certificate of Achievement**

The Fire Officer Certification will prepare students currently employed in fire science occupations to qualify for promotions such as to fire officer. This training utilizes curricula developed by the California Fire Service Training and Education System (CFSTES, the training branch of the California State Fire Marshall) and meets California Board of Fire Services standards. Certification as a CSFM Fire Officer provides in-service fire personnel the ability to promote and advance in their careers and may provide for educational pay incentives.

### *To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Fire Officer Certification (NFPA Standard 1021) Certificate of Achievement.

### *To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

### *Program Learning Outcomes*

Upon successful completion, the student will:

- analyze and assess causes of firefighter fatalities and injuries and safety measures to protect personnel.
- demonstrate the ability to make decisions and communicate an action plan for a hazardous materials incident.
- analyze the relationship between fire prevention efforts and the reduction of life and property loss.
- apply codes to simulated fire prevention inspection violations.
- diagram the management cycle and define each element.
- identify Benjamin Bloom and Dr. Bloom's contribution to educational development.
- define the four-step method of instruction and how it applies to technical lessons.
- identify state arson laws and legal aspects of fire scene investigation.
- list ICS positions and duties and describe the positions to the level of deputies.

*Total Units: 18*

### **Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FIRE B51a	Fire Management 1a	2.0
FIRE B51b	Fire Command 1a	2.0
FIRE B51c	Fire Command 1b	2.0
FIRE B51d	Fire Prevention 1a	2.0
FIRE B51e	Fire Prevention 1b	2.0
FIRE B51f	Fire Investigation 1a	2.0
FIRE B51g	Training Instructor 1a	2.0
FIRE B51h	Training Instructor 1b	2.0
FIRE B51i	Fire Prevention 1c	2.0

## **Foods/Nutrition**

### **Child Nutrition Management Certificate of Achievement**

Program emphasizes quality food production, production records, nutrition standards and student service in child nutrition programs including public and private schools, child-care centers and day-care centers.

A Sanitation Certificate such as ServSafe or equivalent is required for this certificate.

### *To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Nutrition Management Certificate of Achievement.

### *To Transfer Coursework*

A minimum of 25.5-31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

### *Program Learning Outcomes*

Upon successful completion, the student will:

- practice proper basic principles of food safety (sanitation) and their application to food service operations and procedures.
- practice the principles and methods of food preparation emphasizing use of standardized recipes, industry production standards, and development of work skills.
- perform dining room service function using a variety of types of service and demonstrate and understanding of quality customer service.
- have an understanding of a supervisor's role and responsibilities in managing a food service operation.
- maximize nutritional retention in food preparation and storage and application of nutritional principles in menu planning.
- demonstrate basic baking principles and to apply fundamentals to the preparation of a variety of products.

*Total Units: 25.5-31*

### **Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FDSV B50	Introduction to the Foodservice Industry	2.0
FDSV B52	Foodservice Sanitation and Safety	2.0
	-or-	
FDSV B55a	Foodservice Production Theory I	2.5
	-and-	
FDSV B55c	Foodservice Production Laboratory I	2.0
	-and-	
NUTR B10	Elementary Nutrition	3.0
WEXP B248	Occupational Work Experience Education	2.0
	-or-	
WEXP B249	Cooperative Work Experience Education	2.0
ENGL	English Course	4.0
COMP	Computer Studies Course	3.0

### **Electives — for a total of at least 25.5 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FDSV B55a	Foodservice Production Theory I	2.5
FDSV B55b	Foodservice Production Theory II	2.5
FDSV B55c	Foodservice Production Laboratory I	2.0
FDSV B55d	Foodservice Production Laboratory II	2.0
FDSV B59	Foodservice Production Management	3.0
FDSV B71	Servsafe Certification	0.5

### **Child Nutrition Program Management Option Associate in Science**

Program emphasizes quality food production, production records, nutrition standards and student service in child nutrition programs including public and private schools, childcare centers and day care

centers. A Sanitation Certificate such as ServSafe or equivalent is required for the associate degree.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Child Nutrition Program Associate in Science degree.

*To Transfer Coursework*

A minimum of 24.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- practice proper basic principles of food safety (sanitation) and their application to food service operations and procedures.
- practice the principles and methods of food preparation emphasizing use of standardized recipes, industry production standards, and development of work skills.
- perform dining room service function using a variety of types of service and demonstrate and understanding of quality customer service.
- have an understanding of a supervisor's role and responsibilities in managing a food service operation.
- maximize nutritional retention in food preparation and storage and application of nutritional principles in menu planning.
- demonstrate basic baking principles and to apply fundamentals to the preparation of a variety of products.

Total Units: 24.5

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FDSV B50	Introduction to the Foodservice Industry	2.0
FDSV B52	Foodservice Sanitation and Safety	2.0
FDSV B55a	Foodservice Production Theory I	2.5
FDSV B55c	Foodservice Production Laboratory I	2.0
NUTR B10	Elementary Nutrition	3.0
WEXP B248	Occupational Work Experience Education	2.0
	-or-	
WEXP B249	Cooperative Work Experience Education	2.0
COMP	Computer Science Course	3.0

**Electives — for a total of at least 24.5 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FDSV B55b	Foodservice Production Theory II	2.5
FDSV B55d	Foodservice Production Laboratory II	2.0
FDSV B59	Foodservice Production Management	3.0
FDSV B71	ServSafe Certification	0.5

**Culinary Arts**

**Certificate of Achievement**

Program emphasizes quality food production and service in commercial and institutional food service operations. Course work includes practical training in the campus restaurant, the Renegade Room.

A sanitation certificate such as ServSafe or equivalent is required for this Certificate.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Culinary Arts Certificate of Achievement.

*To Transfer Coursework*

A minimum of 24.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- perform dining room service function using a variety of types of service and demonstrate an understanding of quality customer service.
- practice proper basic principles of food safety (sanitation) and their application to food service operations and procedures.
- practice the principles and methods of food preparation emphasizing use of standardized recipes, industry production standards, and development of work skills.
- maximize nutrient retention in food preparation and storage and application of nutritional principles and to apply fundamentals to the preparation of a variety of products.
- have an understanding of a supervisor's role and responsibilities in managing a food service operation.

Total Units: 24.5

**Required Courses (including completion of the ServSafe exam)**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
FDSV B50	Introduction to the Foodservice Industry	2.0
FDSV B51	Food & Nutrition Orientation	
0.5 FDSV B52	Foodservice Sanitation and Safety	2.0
FDSV B55a	Foodservice Production Theory I	2.5
FDSV B55b	Foodservice Production Theory II	2.5
FDSV B55c	Foodservice Production Laboratory I	2.0
FDSV B55d	Foodservice Production Laboratory II	2.0
FDSV B55f	Fundamentals of Baking	2.0
FDSV B55i	Food and Nutrition Internship	1.0
FDSV B59	Food Service Production Management	3.0
NUTR B10	Elementary Nutrition	3.0
WEXP B248	Occupational Work Experience Education	2.0

**Culinary Arts**

**Associate in Science**

Degree emphasizes quality food production and service in commercial and institutional food service operations. Course work includes practical training in the campus restaurant, the Renegade Room. National Restaurant Association ServSafe certificate is required for completion of the degree.

Career opportunities in food service include sous chef, food service manager, food buyer, and cook.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Culinary Arts Associate in Science degree.

*To Transfer Coursework*

A minimum of 27.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- perform dining room service function using a variety of types of service and demonstrate an understanding of quality customer service.
- practice proper basic principles of food safety (sanitation) and their application to food service operations and procedures.
- practice the principles and methods of food preparation emphasizing use of standardized recipes, industry production standards, and development of work skills.
- maximize nutrient retention in food preparation and storage and application of nutritional principles and to apply fundamentals to the preparation of a variety of products.
- have an understanding of a supervisor's role and responsibilities in managing a food service operation.

Total Units: 27.5

**Required Courses (including completion of the ServSafe exam)**

Course Number	Title	Units
FDSV B50	Introduction to the Foodservice Industry	2.0
FDSV B51	Food and Nutrition Orientation	0.5
FDSV B52	Foodservice Sanitation and Safety	2.0
FDSV B55a	Foodservice Production Theory I	2.5
FDSV B55b	Foodservice Production Theory II	2.5
FDSV B55c	Foodservice Production Laboratory I	2.0
FDSV B55d	Foodservice Production Laboratory II	2.0
FDSV B55e	Advanced Foodservice Practicum	3.0
FDSV B55f	Fundamentals of Baking	2.0
FDSV B55i	Food and Nutrition Internship	1.0
FDSV B59	Foodservice Production Management	3.0
NUTR B10	Elementary Nutrition	3.0
WEXP B248	Occupational Work Experience Education	2.0

***Dietetic Services Supervisor Program Certificate of Achievement***

Program provides training for students planning employment in the food service department of a health care operation. Courses in this program meet State of California Department of Health Services certification requirements. Consult with a member of the Foods and Nutrition Program staff before scheduling courses in the program. At this time appropriate clinical field experience will be planned. A sanitation certificate such as ServSafe or equivalent is required for this certificate.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Dietetic Services Supervisor Program Certificate of Achievement.

*To Transfer Coursework*

A minimum of 18.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- locate the state and federal laws and regulations applicable to food service operations in health care (California Code of Regulations, Title 22 Federal Code of Regulations, Business and Professions Code of Registered Dietitians and Dietetic Technicians Registered, FDA Food Code, etc.).
- utilizing the above references laws, and in conjunction

with the registered dietitian, determine compliance with regulations and acceptable standards of care.

- identify the role and limitations of the Dietary Service Supervisor under Title 22.
- review, with a registered dietitian, a facility's policies and procedures to ensure that they are in compliance with regulations and standards of practice.
- locate diet manuals and show ability to use them by making menu substitutions to meet the nutritional needs of residents/patients in accordance with standard of care.
- help registered dietitian ensure that menus and standardized recipes are followed by food service staff. Help develop standardized menus.
- ensure that food is prepared and served by methods that conserve nutritive value, flavor, and appearance. Ensure that food is prepared to meet individual texture and nutrient needs and that substitutions are of similar nutritive value.
- ensure that residents/patients receive and consume foods as prescribed by the physician. Document diet prescriptions, food preferences, and the possible need for texture modification and/or assistance during meal times by maintaining and updating card profiles.
- protect food in all phases of preparation. Ensure that food is inspected for quality upon receiving, then stored, prepared, and served under sanitary conditions to prevent food borne illness. Sanitation oversight includes all food service department areas and components such as storage rooms, refrigerators/freezers, food preparation, and service equipment and surfaces, tray lines, and carts.
- assist with day to day operations such as:
  - food forecasting, ordering, storage, preparation, and service.
  - employee staffing schedules.
  - employee health and safety programs.
  - labor relations.
  - employee orientation and ongoing planned staff development.

Total Units: 18.5

**Required Courses (including completion of the ServSafe exam)**

Course Number	Title	Units
FDSV B50	Introduction to the Foodservice Industry	2.0
FDSV B52	Foodservice Sanitation and Safety	2.0
FDSV B55a	Foodservice Production Theory I	2.5
FDSV B55c	Foodservice Production Laboratory I	2.0
FDSV B59	Foodservice Production Management	3.0
NUTR B10	Elementary Nutrition	3.0
NUTR B50	Modified Diets	2.0
FDSV B64a	Dietetic Service Supervisor Practicum	2.0

***Foodservice Management Option Associate in Science***

A sanitation certificate such as ServSafe or equivalent is required for this associate degree.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Foodservice Management Option Associate in Science degree.

*To Transfer Coursework*

A minimum of 29.5 semester units in the major with a grade of 'C' or

better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- practice proper basic principles of food safety (sanitation) and their application to food service operations and procedures.
- practice the principles and methods of food preparation emphasizing use of standardized recipes, industry production standards, and development of work skills.
- perform dining room service function using a variety of types of service and demonstrate an understanding of quality customer service.
- maximize nutrient retention in food preparation and storage and application of nutritional principles and to apply fundamentals to the preparation of a variety of products.
- demonstrate basic baking principles and to apply fundamentals to the preparation of a variety of products.
- have an understanding of a supervisor's role and responsibilities in managing a food service operation.

Total Units: 29.5

#### Required Courses (including completion of the ServSafe exam)

Course Number	Title	Units
FDSV B50	Introduction to the Foodservice Industry	2.0
FDSV B51	Food & Nutrition Orientation	0.5
FDSV B52	Foodservice Sanitation and Safety	2.0
FDSV B55a	Foodservice Production Theory I	2.5
FDSV B55b	Foodservice Production Theory II	2.5
FDSV B55c	Foodservice Production Laboratory I	2.0
FDSV B55e	Advanced Foodservice Practicum	3.0
FDSV B55i	Food and Nutrition Internship	1.0
FDSV B59	Foodservice Production Management	3.0
NUTR B10	Elementary Nutrition	3.0
WEXP B248	Occupational Work Experience Education	2.0
BSAD B53a	Introduction to Accounting I	3.0
SPST B201L	Special Projects and Studies	3.0

## Geology

### Geology

#### Associate in Sciences Degree for Transfer

The Associate in Science in Geology Degree for Transfer is designed to provide students a clear pathway to the CSU Geology major and completion of the Geology baccalaureate degree, to grant guaranteed admission to a CSU to a similar major, with junior standing, and the ability to complete their remaining requirements within 60 semester or 90 quarter units.

#### Program Learning Outcomes

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

- demonstrate a knowledge of and recognize the processes that explain natural phenomena
- apply the methodologies of science when approaching a problem
- apply logical quantitative and qualitative reasoning in solving problems or analyzing arguments

The Associate in Science in Geology Degree for Transfer provides a path to students who wish to transfer to a CSU in the field of geology and serves the diverse needs of students who wish to

obtain a broad and an in-depth understanding of the geological sciences. Additionally, the Associate of Science in Geology Degree for Transfer allows students to learn the fundamental principles and practices of geology in order to create a solid foundation for their future personal, academic, or vocational endeavors. The Associate of Science in Geology Degree for Transfer also provides solid preparation that is appropriate for a variety of scientific disciplines.

The major in geology is appropriate for interested students who desire to be employed within the local petroleum industry working as a geology technician or seeking a solid science background for the teaching profession. The major is designed to provide students with a strong general education in math and science, introduction to physical and historical geology, as well as a general introduction to basic engineering skills.

The following is required for the completion of all AA-T or AS-T degrees:

1. The completion of 60 semester units that are eligible for transfer to the California State University, including both of the following:
  - The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University – Breadth Requirements.
  - A minimum of 18 semester units in a major area of emphasis, as determined by the Kern Community College District Board of Trustees.
2. The obtainment of a minimum grade point average of 2.0.
3. The completion of all courses required for the major with a "C" or better. "P" (Pass) grade is not acceptable for courses in the major.

#### Required Core Courses - 26 Units

Course Number	Title	Units
GEOL B10*	Introduction to Geology	3.0
GEOL B10L*	Introduction to Geology Laboratory	1.0
GEOL B11*	Historical Geology	3.0
GEOL B11L*	Historical Geology Laboratory	1.0
CHEM B1a*	General Chemistry I	5.0
CHEM B1B	General Chemistry & Chemical Analyses	5.0
MATH B6A*	Analytic Geometry and Calculus I	4.0
MATH B6B*	Analytic Geometry and Calculus II	4.0

**Total Units for the Major**

**26**

**Total Units that may be Double-Counted**

**21**

\* Courses that may be double-counted for general education.

## History

The major in history is designed for students interested in gaining an understanding of our political, economic and social past. The major is an important part of the liberal arts program and can serve as preparation for graduate study in education, law, business, government and journalism. Many employers value the writing and thinking skills acquired by History majors. The knowledge gained in history is fundamental for an understanding of many of the other fields of learning.

Bakersfield College offers a wide variety of history courses in addition to those listed below. The student should select courses according to his/her area of specialization as well as the requirements of the college to which he/she plans to transfer. The student should also consult his/her counselor and the appropriate four-year college catalogs in determining an appropriate minor, foreign language requirements, and other core requirements.



## History

### Associate in Arts

#### To Achieve the Associate in Arts

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a History Associate in Arts degree.

#### To Transfer Coursework

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will:

- analyze major forces, events, and people instrumental in shaping human history.
- examine past social-cultural value systems which have formed a basis for human beliefs and challenges to those beliefs.
- analyze the various racial, ethnic and social sub-groups which have played a role in the shaping of human history.
- evaluate historical evidence using both primary and secondary sources.

Total Units: 18

### Required Courses

Course Number	Title	Units
HIST B4ab	European Civilization	6.0
	-or-	
HIST B1	World History from the Origins of Civilizations to 1600	3.0
	-and-	
HIST B2	History of the World (Since 1650)	3.0

### Additional Required Course – choose 1 of the following

Course Number	Title	Units
HIST B17ab	History of the U.S.	6.0
HIST B20ab	African American History of the United States	6.0
HIST B30ab	Chicano History	6.0

### Additional Required Courses – choose 2 of the following

Course Number	Title	Units
ECON B2	Principles of Economics-Macro	3.0
HIST B25	Introduction to Women in American History	3.0
HIST B18	History of California	3.0
HIST B36	History of Native American Indians	3.0
GEOG B1	Physical Elements of Geography	3.0
POLS B1	American Government: National, State and Local	3.0
POLS B2	Comparative Government	3.0
POLS B3	International Politics	3.0
SOCI B1	Introduction to Sociology	3.0
HIST B33	Latin American History	3.0
HIST B15	Civilizations of the Middle East	3.0

### Recommended Courses

Course Number	Title	Units
ENGL B2	Advanced Composition and Critical Thinking	4.0
PHIL B6a	Introduction to Philosophy	3.0
PSYC B1a	General Psychology	3.0
ANTH B2	Cultural Anthropology	3.0

## Human Services

### Human Services

#### Job Skills Certificate

The Human Service Job Skills Certificate emphasizes classroom instruction as well as hands-on-experience through interning with community human services agencies. The field of human services is very broad. It is concerned with meeting human needs and improving the overall quality of people's lives. The field is interdisciplinary, meaning that knowledge from a variety of other fields of study is applied to the overall goal of helping people.

#### To Achieve the Job Skills Certificate

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Human Services Job Skills Certificate.

#### To Transfer Coursework

A minimum of 15 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will

- Demonstrate an understanding of the perspectives, theories, methods and core concepts of the behavioral sciences.
- Explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
- Demonstrate an understanding of an ability to describe the contributions and perspectives of women, ethnic and other minorities and Western and non-Western peoples.

Total Units: 15

### Required Courses

Course Number	Title	Units
COMP B5	Introduction to Microsoft Office	3.0
ENGL B50	Introduction to College Composition	4.0
HMSV B40	Introduction to Human Services	3.0
HMSV B5	Human Services Internship	2.0
SOCI B1	Introduction to Sociology	3.0

## Human Services

### Associate in Arts

The major in human services provides the student with an academic background for entry-level positions in various human services agencies. It also prepares the student for upper-division work in human services and other behavioral sciences. The field is interdisciplinary with the overall career goal of helping people.

#### To Achieve the Associate in Arts

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Human Services Associate in Arts degree.

#### To Transfer Coursework

A minimum of 19 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### Program Learning Outcomes

Upon successful completion, the student will

- Demonstrate an understanding of the perspectives, theories, methods and core concepts of the behavioral sciences.

- Explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
- Demonstrate an understanding of an ability to describe the contributions and perspectives of women, ethnic and other minorities and Western and non-Western peoples.

Total Units: 19

**Required Courses**

Course Number	Title	Units
HMSV B40	Introduction to Human Services	3.0
SOCI B1	Introduction to Sociology	3.0
SOCI B45	Minority Relations	3.0
PSYC B1a	General Psychology	3.0
PSYC B40	Introduction to Lifespan Psychology	3.0
-or-		
CHDV B21	Child Growth and Development: Birth Through Adolescence	3.0

In addition, a total of four units of HMSV B5 is required. Two units are permitted in a given semester. All units must be completed in agencies where assignment and supervision is approved by the Program Coordinator. Students wishing to enroll in HMSV B5 must have completed HMSV B40.

Course Number	Title	Units
HMSV B5	Human Services Internship	4.0

**Industrial Drawing**

**AutoCAD**

**Job Skills Certificate**

This certificate covers the principles of industrial drawing/CAD with the emphasis on using the AutoCAD software package from basic 2D principles through 3D solid modeling to obtain graphic solutions, design refinements, modifications and delineations. Software customization is also emphasized. Career opportunities include drafter, CAD operator, engineering tech, CAD manager, and architecture CAD operator.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an AutoCAD Job Skills Certificate.

*To Transfer Coursework*

A minimum of 8 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or for certification in the department programs.

Total Units: 8

**Required Courses**

Course Number	Title	Units
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
INDR B20b	Computer Aided Drafting and Design (CAD)	3.0

**Industrial Drawing**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Industrial Drawing Associate in Arts degree.

*To Transfer Coursework*

A minimum of 20 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.

Total Units: 20

**Required Courses**

Course Number	Title	Units
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
INDR B50	Process Piping	3.0
INDR B51	Electrical Design	3.0
INDR B52	Geographic Information Systems (GIS)	3.0
INDR B40	Parametric Modeling Fundamentals	3.0

**Electives — at least 3 units**

Course Number	Title	Units
ARCH B16	Digital Tools for Graphics Communication	3.0
INDR B20b	Computer Aided Drafting and Design (CAD)	3.0

**Industrial Technology, Industrial Drawing Option**

**Associate in Science**

Students who complete the Industrial Technology degree with the Industrial Drawing option will acquire information, skills, and training in a variety of fields that will enable them to apply their knowledge in an array of situations, including engineering and manufacturing settings. Students will acquire the practical knowledge and skills to successfully enter industry employment or to advance within their organization. Career opportunities include architecture, engineering, industrial technology draftsman, CAD Technician, engineering technician, CAD Manager, and detailer.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in

each course, the student will be awarded an Industrial Technology, Industrial Drawing Option Associate in Science degree.

*To Transfer Coursework*

A minimum of 31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program in industrial technology.

Total Units: 31

**Required Courses**

Course Number	Title	Units
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
INDR B20b	Computer Aided Drafting and Design (CAD)	3.0
INDR B40	Parametric Modeling Fundamentals	3.0
INDR B50	Process Piping	3.0
MATH B70	Intermediate Algebra	5.0
INDR B51	Electrical Design	3.0
INDR B52	Geographic Information Systems (GIS)	3.0
MFGT B1ab	Machine Tool Processes	3.0
	-or-	
WOOD B2	Furniture and Cabinetmaking	3.0
COMP B5	Introduction to Microsoft Office	3.0

**Electives**

Course Number	Title	Units
ENGR B24	Engineering Graphics and Descriptive Geometry	2.0
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0

**Suggested Program for Industrial Technology Industrial Drawing Option Associate in Science**

**First Semester**

Course Number	Title	Units
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
MATH B70	Intermediate Algebra	5.0

**Second Semester**

Course Number	Title	Units
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
MATH B70	Intermediate Algebra	5.0
INDR B50	Process Piping	3.0
	-or-	
INDR B52	Geographic Information Systems (GIS)	3.0

**Third Semester**

Course Number	Title	Units
INDR B50	Process Piping	3.0
	-or-	
INDR B52	Geographic Information Systems (GIS)	3.0
INDR B51	Electrical Design	3.0

**Fourth Semester**

Course Number	Title	Units
COMP B5	Introduction to Microsoft Office	3.0
INDR B40	Parametric Modeling Fundamentals	3.0

**Industrial Technology**

**Industrial Technology (General)**

**Associate in Science**

Students who complete the Industrial Technology degree with the Industrial Drawing option will acquire information, skills, and training in a variety of fields that will enable them to apply their knowledge in an array of situations, including engineering and manufacturing settings. Students will acquire the practical knowledge and skills to successfully enter industry employment or to advance within their organization. Career opportunities include architecture, engineering, and Industrial Technology, draftsman, CAD Technician, Engineering Technician, CAD Manager, and detailer.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Industrial Technology (General) Associate in Science degree.

*To Transfer Coursework*

A minimum of 22 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program in industrial technology.

Total Units: 22

**Required Courses**

Course Number	Title	Units
MFGT B1ab	Machine Tool Processes	3.0
ELET B1	Basic Electronics (DC and AC)	4.0
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
INDT B10	Occupational Readiness	3.0
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0

**Electives - at least 3 units**

Course Number	Title	Units
INDR B20b	Computer Aided Drafting and Design (CAD)	3.0
MFGT B2CNC	Lathe Programming & Operation	3.0
WOOD B2	Furniture and Cabinetmaking	3.0
AUTO B1ab	Introduction to Automotive Technology	4.0
CNST B1	Introduction to Construction	3.0
COMP B5	Introduction to Microsoft Office	3.0

**Journalism****Journalism****Associate in Arts**

Designed to provide training for entry into newspaper and magazine journalism and photojournalism.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Journalism Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate the ability, through learned skills, critical thinking and organization, to perform the function of reporter, photographer or editor on a print and online publication.
- demonstrate how to conduct the process of reporting.
- demonstrate how to conduct the process of photojournalism and multimedia.
- discuss various forms of media and how they relate to society through historical and current knowledge of mass communication.
- demonstrate an understanding of journalism ethics and standards.

Total Units: 18

**Required Courses**

Course Number	Title	Units
JRNL B1	Media and Society	3.0
JRNL B2	Beginning Reporting	3.0
JRNL B15	Press Photography	3.0
JRNL B16	Multimedia Reporting	3.0

**Plus 6 units from the following:**

Course Number	Title	Units
JRNL B27a	Newspaper Production/Reporters	3-6.0
JRNL B27e	Newspaper Production/Photographers	3-6.0
JRNL B26	Newspaper Production/Editors	4.0

**Liberal Arts**

Please refer to the general education student learning outcomes in the Graduation and General Education section of catalog.

**Liberal Arts****Associate in Arts**

The Liberal Arts major at Bakersfield College is designed to provide students with the opportunity to earn an associate in arts degree in a broad area of study. The major is interdisciplinary and allows students to develop a variety of skills transferable to numerous occupations and fields of study. The major is intended to provide general knowledge and to develop the intellectual capacities, such as reasoning and judgment, as opposed to professional or vocational skills. This major is suitable for transfer students preparing for upper division study in a variety of fields in the liberal arts and for those students undecided as to major or further study. Students may satisfy requirements for the Liberal Arts major by completing one of the two options listed below. With any option selected, students must also complete all graduation requirements for Bakersfield College including a total of 60 degree applicable units with an overall grade point average of 2.0.

*To Achieve the Associate in arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Liberal Arts Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

Select one of the following options:

## 1. Option One.

- Complete the Intersegmental General Education Transfer Curriculum (IGETC) with a C average.
- Complete at least 18 units from recommended lower division major preparation for the major at the approved university of your choice with a C grade in each course.
- UC transferable elective units, if needed, to total 60 units.

## 2. Option Two.

- Complete CSU General Education Breadth with a C average.
- Complete at least 18 units from recommended lower division major preparation for the major at the approved university of your choice with a C grade in each course.
- CSU transferable elective units, if needed, to total 60 units.

**Liberal Studies****Liberal Studies****Associate in Arts**

Courses listed are based on information available at the time of publication of this catalog for the Liberal Studies Major Credential Track at CSU Bakersfield and are intended for students who plan to obtain a multiple subjects teaching credential. Students are advised to see a counselor for the most current requirements for a Liberal Studies major at CSU Bakersfield. Students transferring to other colleges or universities are advised to consult the catalog of the school they plan to attend. This degree is articulated directly with CSU Bakersfield and may not be applicable to any other CSU.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in

each course, the student will be awarded a Liberal Studies Associate in Arts degree.

*To Transfer Coursework*

A minimum of 16 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- A.1. Oral Communication
  - 1. Form and present informative persuasive messages.
  - 2. Demonstrate competence in both active and empathic listening.
  - 3. Present oral messages to appropriate audiences and adhere to conventions of message delivery.
  - 4. Manage personal communication apprehension and anxiety.
- A.2 Written Communication
  - 1. Identify the controlling idea and the main points of college-level expository & argumentative essays.
  - 2. Evaluate expository & argumentative essays through the application of critical thinking techniques.
  - 3. Write logical & coherent expository & argumentative essays, summaries & paraphrases using correctly the standard conventions of written English.
- A.3 Critical Thinking
  - 1. Make judgments that skillfully interpret information and phenomena.
  - 2. Skillfully support judgments.
  - 3. Identify & skillfully explore assumptions, implications, and alternatives to judgments.
  - 4. Identify & differentiate statements of opinion, matters of fact, and arguments.
  - 5. Analyze arguments into supporting judgments and supported judgments.
  - 6. Skillfully evaluate judgments.
  - 7. Skillfully evaluate the support for judgments.
- B.1 Natural Sciences
  - 1. Demonstrate a knowledge of natural phenomena and recognize the processes that explain them.
  - 2. Demonstrate a knowledge of scientific methodologies when solving a problem.
- B.2. Mathematics and Logic
  - 1. Apply formal systems of reasoning in solving problems or analyzing arguments.
- C.1 Introduction to the Arts
  - 1. Demonstrate an understanding of and an ability to describe the ways in which arts, literature, philosophy or foreign languages reflect historical, intellectual, and cultural contexts, as well as aesthetic tastes.
  - 2. Demonstrate the ability to recognize, describe and/ or produce various components of an art form or language either visually and/or auditorily.
- C.2 Introduction to the Humanities
  - 1. Demonstrate an understanding of and an ability to describe the ways in which arts, literature, philosophy or foreign languages reflect historical, intellectual, and cultural contexts, as well as aesthetic tastes.

- D.1 Foundations in the Behavioral Sciences
  - 1. Demonstrate an understanding of the perspectives, theories, methods and core concepts of the behavioral sciences.
  - 2. Explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
  - 3. Demonstrate an understanding of and an ability to describe the contributions and perspectives of women, ethnic and other minorities, and Western and non-Western peoples.
- D.2 Foundations in the Social Sciences
  - 1. Demonstrate an understanding of the perspectives, theories, methods and core concepts of the social sciences.
  - 2. Explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
  - 3. Demonstrate an understanding of and an ability to describe the contributions and perspectives of women, ethnic and other minorities, and Western and non-Western peoples.
- D.3 American (U.S.) Institutions
  - 1. Demonstrate an understanding of the perspectives, theories, methods and core concepts of the social sciences.
  - 2. Explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
  - 3. Demonstrate an understanding of and an ability to describe the contributions and perspectives of women, ethnic and other minorities, and Western and non-Western peoples.
- E. Lifelong Understanding and Self-Development
  - 1. Critically examine the development of the individual as an integrated physiological, psychological, spiritual, and social being.
  - 2. Identify, describe and explain the interactions of the internal and external influences and effects in human development and behavior over the course of the human life span.
- F. Demonstrate knowledge and abilities in a chosen area of study.
  - 1. Demonstrate an understanding of resources and procedures of a field and the ability to use them.
  - 2. Demonstrate the ability to use current technology to acquire, organize, and analyze information appropriately.
  - 3. Possess a core of knowledge and skills in a chosen field.

*Total Units: 16*

**Required Courses -V select 18 units in areas 1-8**

**Area 1 - Language**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ENGL B1a	Expository Composition	3.0
ENGL B1b	Introduction to Types of Literature	3.0
	-or-	
ENGL B10	Introduction to Shakespeare	3.0
ENGL B21	African American Literature	3.0

ENGL B30a	-or- Survey of American Literature	3.0
ENGL B30b	-or- Survey of American Literature	3.0
COMM B1	Public Speaking	3.0
<b>Area 2 - Mathematics</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MATH B4a	Mathematics for Elementary School Teaching I	4.0
<b>Area 3 - Science</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
BIOL B11	Concepts of Biology	4.0
PHSC B12	Physical Science	4.0
ERSC B10	Introduction to Earth Science	3.0
ERSC B10L	Earth Science Laboratory	1.0
<b>Area 4 - Humanities and Social Science</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
HIST B17a	History of the United States	3.0
POLS B1	American Government: National, State, and Local	3.0
HIST B18	History of California	3.0
HIST B1	World History from the Origins of Civilizations to 1600	3.0
GEOG B2	Human Geography	3.0
PHIL B7	Introduction to Logic	3.0
PHIL B9	-or- Critical Thinking and Advanced Composition	4.0
COMM B5	-or- Rhetoric and Argumentation	4.0
<b>Area 5 - Visual and Performing Arts</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ART B1	Art Appreciation	3.0
ART B2	-or- Drawing I	3.0
ART B35	-or- Survey of Western Art I	3.0
ART B36	-or- Survey of Western Art II	3.0
MUSC B2	-or- Basic Elements of Music	3.0
MUSC B22	-or- Music Appreciation	3.0
THEA B1	-or- Introduction to Acting	3.0
THEA B20	-or- Introduction to Theatre	3.0
<b>Area 6 - Health and Physical Education</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
HLED B1	Principles of Health Education	3.0
<b>Area 7 - Human Development</b>		
<i>Course Number</i>	<i>Title</i>	<i>Units</i>
*PSYC B1a	General Psychology	3.0
PSYC B40	-or- Introduction to Lifespan Psychology	3.0
CHDV B21	-or- Child Growth & Development: Birth through Adolescence	3.0

**Area 8 - Ethnic, Gender, Cultural, and Handicapped Perspectives**  
No course articulated.

**Area 9 - Introductory Field Experience and Technology**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
EDUC B24	Early Field Experience for Elementary Teachers	3.0
COMP B2	Introduction to Computer Information Systems	3.0
COMP B3	-or- Computer Concepts and Survival Skills	3.0
COMP B5	-or- Introduction to Microsoft Office	3.0

**Manufacturing/Machine Technology**

**Basic Machine Tool Operations-Lathe, Mill**

**Job Skills Certificate**

This certificate covers the principles of machine tool technology to include the use of precision measuring, drilling machines, saws, lathes and milling machines. Career opportunities include machinist.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Basic Machine Tool Operations - Lathe, Mill Job Skills Certificate.

*To Transfer Coursework*

A minimum of 3 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university program or for certification in the department programs.

*Total Units: 3*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MFGT B1ab	Machine Tool Processes	3.0

**Computer Numerical Control Programming**

**Job Skills Certificate**

This certificate covers the principles of set-up, operation and programming of computer numerical control (CNC) lathes and milling machines. Career opportunities include CNC Machinist CNC Programmer and CNC Operator.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Computer Numerical Control Programming Job Skills Certificate.

*To Transfer Coursework*

A minimum of 6 semester units in the major with a grade of 'C' or

better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university program or for certification in the department programs.

Total Units: 6

**Required Courses**

Course Number	Title	Units
MFGT B2	CNC Lathe Programming & Operation	3.0
MFGT B3	CNC Mill Programming	3.0

**Manufacturing Technology Certificate of Achievement**

This program teaches students the spectrum of tools utilized in the manufacturing industry: manual machining, computer-controlled machining (CNC), welding, computer aided design, and basic math.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Manufacturing Technology Certificate of Achievement.

*To Transfer Coursework*

A minimum of 31 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the manufacturing industry.
- demonstrate problem solving skills used in manufacturing design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university program or for certification in the manufacturing program.

Total Units: 31-33

**Required Courses**

Course Number	Title	Units
MFGT B1ab	Machine Tool Processes	3.0
MFGT B2	CNC Lathe Programming & Operation	3.0
MFGT B3	CNC Mill Programming	3.0
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
TECM B52	Introduction to Technical Mathematics	3.0
MATH BA	Elementary Algebra	5.0
INDT B10	Occupational Readiness	3.0

*-or equivalent-*

WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WELD B54a	Blueprint Reading for Welders and Machinists	3.0

**Electives — at least 7 units**

Course Number	Title	Units
INDR B20a	Computer Aided Drafting and Design	3.0
INDR B40	Parametric Modeling Fundamentals	3.0
INDT B273	Special Problems in Machine Tool Metal Working	2-3.0
WELD B74a	Introduction to GMAW (Gas Metal Arc Welding) and FCAW (Flux Core Arc Welding)	2.0
WELD B74b	Introduction to Gas Tungsten Arc Welding	2.0
WEXP B249	Cooperative Work Experience Education	1.0

**Industrial Technology, Manufacturing Technology Option**

**Associate in Science**

This program teaches students the spectrum of tools utilized in the manufacturing industry: manual machining, computer-controlled machining (CNC), welding, computer aided design, and mathematics. General education courses may be selected to prepare for career advancement or to help meet transfer requirements for the California State University system.

Career Opportunities include machinist, CNC Operator, CNC Programmer, and drafter/designer.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Industrial Technology, Manufacturing Technology Option Associate in Science degree.

*To Transfer Coursework*

A minimum of 24 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the manufacturing industry.
- demonstrate problem solving skills used in manufacturing design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university program or for certification in the manufacturing program.

Total Units: 24

**Required Courses**

Course Number	Title	Units
MFGT B1ab	Machine Tool Processes	3.0
MFGT B2	CNC Lathe Programming & Operation	3.0
MFGT B3	CNC Mill Programming	3.0
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0

TECM B52	Introduction to Technical Mathematics <i>-or equivalent-</i>	3.0
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WELD B54a	Blueprint Reading for Welders and Machinists	3.0

**Electives — at least 3 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
INDR B40	Parametric Modeling Fundamentals	3.0
INDT B273	Special Problems in Tool Metal Working 2-3.0	
WELD B53ab	Shielded Metal Arc Welding	4.0
WELD B74a	Introduction to GMAW (Gas Metal Arc Welding) and FCAW (Flux Core Arc Welding)	2.0
WELD B74b	Introduction to Gas Tungsten Arc Welding	2.0
WEXP B249	Cooperative Work Experience Education	1.0

**Mathematics**

This degree represents the standard freshman and sophomore level classes for a mathematics major. Career opportunities include teaching, actuarial, and statistics.

**Mathematics**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Mathematics Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will

- use mathematics to investigate, model, and solve a variety of real-world problems.
- use a variety of problem-solving methods.
- use mathematics to write and communicate in their discipline.
- view mathematics as a language to describe relationships and patterns. Demonstrate an understanding of concepts and skills needed for future mathematics courses or courses in related disciplines.
- demonstrate a solid understanding of functions from multiple perspectives.
- use numerical, graphical, symbolic, and verbal representations to solve problems and communicate with others.
- use technology as a tool for exploring mathematical concepts.
- demonstrate an ability to work with mathematical abstractions, analyze mathematical relationships, make plausible conjectures, and develop proofs.
- synthesize their mathematical knowledge.

*Total Units: 18*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MATH B6a	Analytic Geometry and Calculus I	4.0
MATH B6b	Analytic Geometry and Calculus II	4.0

MATH B6c	Calculus III	4.0
MATH B6d	Ordinary Differential Equations	3.0
MATH B6e	Elementary Linear Algebra	3.0

**Recommended Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PHIL B7	Introduction to Logic	3.0
PHYS B4a	Mechanics and Wave Motion	4.0
ENGR B19c	Introduction to Programming Concepts and Methodologies for Engineers	3.0
MATH B21	Special Projects in Mathematics	1-2.0
MATH B22	Elementary Probability and Statistics	4.0

**Music**

Students who plan to major or minor in music should commit themselves to the highest possible level of proficiency in theory, piano, literature, group performance, and applied (individual) instruction in their performance area. Students should take the required courses in music and complete courses in general education for the transfer college of their choice. Elective courses will both enrich the student's background and balance weak areas of knowledge for later academic growth. Career opportunities in music include performer, conductor, composer, arranger, recording artist, recording engineer, critic, musicologist, theorist, private teacher, single-subject teacher, professor, copyist, church musician, music therapist, sound technician, tour manager, and agent.

**Music**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Music Associate in Arts degree.

*To Transfer Coursework*

A minimum of 24-26 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate the ability to recognize, describe and/or effectively produce various components of music including elements of pitch and rhythm.
- demonstrate an understanding and appreciation of the ways in which arts reflect historical, intellectual, and cultural contexts, as well as aesthetic tastes.
- demonstrate through successful group or individual performance acquired musical skills and knowledge appropriate to lower-division major preparation.

*Total Units: 24-26*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MUSC B4a	Elementary Theory	3.0
MUSC B4b	Elementary Theory	3.0
MUSC B5a	Class Piano	1.0
MUSC B5b	Class Piano	1.0
MUSC B15a	Ear Training and Sight Singing	1.0
MUSC B15b	Ear Training and Sight Singing	1.0
MUSC B21a	History of Music	3.0



MUSC B21b	History of Music	3.0
MUSC B4c	Intermediate Theory-Contemporary Materials	3.0
MUSC B15c	Intermediate Ear Training/Sight Singing	1.0

**Group Performance Courses (one per semester, four semesters minimum)**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MUSC B10a	Concert Band	4.0
MUSC B12a	College Orchestra	4.0
MUSC B13a	Jazz Ensemble	4.0
MUSC B14a	College Choir	6.0
MUSC B18a	Drum Line	4.0

**Suggested Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MUSC B2	Basic Elements of Music	3.0
MUSC B6ab	Class Voice	2.0
MUSC B6cd	Class Voice	2.0
MUSC B9a	Beginning Class Guitar	1.0
MUSC B9b	Intermediate Class Guitar	1.0
MUSC B17a	Chamber Singers	6.0
MUSC B22	Music Appreciation	3.0
MUSC B23	Appreciation of Jazz	3.0
MUSC B24	A Survey of World Music	3.0
MUSC B27	History of Rock and Roll	3.0
MUSC B60ab	Concepts and Applications of Music Technology	6.0
MUSC B230a	Music Laboratory	0.5
MUSC B230b	Music Laboratory	0.5
MUSC B230c	Music Laboratory	0.5

**Nursing**

***Nursing***

***Associate in Science***

**Mission**

The mission of the Bakersfield College Associate Degree Nursing Program is to prepare entry-level registered nurses as providers and managers of care across the health/illness continuum and as members within the profession. Graduate nurses will collaborate with members of the health care team, be effective communicators, be politically aware, and demonstrate a commitment to life long learning.

The study of nursing is the application of knowledge from the arts and sciences. The purpose of the Bakersfield College Associate Degree Program is to provide the foundation for students to become competent registered nurses. The ADN Program respects the individuality of students and recognizes that each student has different educational, experiential, cultural, spiritual, economic and social backgrounds and a unique support system. The aim of the Program is to provide a positive, innovative learning model that fosters the development of critical thinking and problem solving skills so that the graduate nurse is equipped to deliver care to a culturally diverse population in a variety of healthcare settings.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Nursing Associate in Arts degree.

*To Transfer Coursework*

A minimum of 41 semester units in the major with a grade of 'C' or better.

**Program Learning Outcomes**

Upon successful completion, the student will:

1. demonstrate the standards of competent performance as defined by the California Board of Registered Nursing. The successful graduate will be considered competent when he/she consistently demonstrates the ability to transfer knowledge scientific knowledge from social, biological, and physical sciences in applying the nursing process as follows:
  - formulates a nursing diagnosis through observation of the client's physical condition and behavior, and through interpretation of information obtained from the client and others, including the health team.
  - formulates a care plan, in collaboration with the client, which ensures that direct and indirect nursing care services provide for the client's safety, comfort, hygiene, and protection, and for disease prevention and restorative measures.
  - performs skills essential to the kind of nursing action to be taken, explains the health treatment to the client and family and teaches the client and family how to care for the client's health needs.
  - delegates tasks to subordinates based on the legal scopes of practice of the subordinates and on the preparation and capability needed in the tasks to be delegated, and effectively supervises nursing care being given by subordinates.
  - evaluates the effectiveness of the care plan through observation of the client's physical condition and behavior, signs and symptoms of illness, and reactions to treatment and through communication with the client and health team members, and modifies the plan as needed.
  - acts as the client's advocate, as circumstances require, by initiating action to improve health care or to change decisions or activities which are against the interests or wishes of the client, and by giving the client the opportunity to make informed decisions about health care before it is provided.  
(Title 16, California Code of Regulations, Division 14 – Board of Registered Nursing, Article 4, Section 1443.5)
  
2. perform Nursing practice, which includes those functions, including basic health care, that help people cope with difficulties in daily living that are associated with their actual or potential health or illness problems or the treatment thereof, including all of the following:
  - direct and indirect patient care services that ensure the safety, comfort, personal hygiene, and protection of patients; and the performance of disease prevention and restorative measures. (Business and Professions Code, Division 2, Chapter 6, Section 2725)
  - direct and indirect patient care services, including, but not limited to, the administration of medications and therapeutic agents, necessary to implement a treatment, disease prevention, or rehabilitative regimen ordered by and within the scope of licensure of a physician, dentist, podiatrist, or clinical psychologist, as defined by Section 1316.5 of the Health and Safety Code.
  - the performance of skin tests, immunization techniques, and the withdrawal of human blood from veins and arteries.
  - observation of signs and symptoms of illness, reactions to treatment, general behavior, or general physical condition, and:
  - determination of whether the signs, symptoms,

reactions, behavior, or general appearance exhibit abnormal characteristics.

- implementation, based on observed abnormalities, of appropriate reporting, or referral, or standardized procedures, or changes in treatment regimen in accordance with standardized procedures, or the initiation of emergency procedures.

**Prerequisite Requirements**

All prerequisites must be completed with a 'C' grade or higher.

- ENGL B1A (Expository Composition), three units at Bakersfield College or equivalent course at another accredited college.
- MATH BD/B70 (Intermediate Algebra) or higher, three units at Bakersfield College or an equivalent course at another accredited college
- CHEM B11 (Introduction to General, organic and Biochemistry) or CHEM B2A (Introduction to General Chemistry) or CHEM B1A (General Chemistry) at Bakersfield College or an equivalent Chemistry course of three to five units from another accredited college.
- BIOL B16 (General Microbiology) five units at Bakersfield College or equivalent course at another accredited college.
- BIOL B32 (Anatomy & Physiology I) four units at Bakersfield College or equivalent course at another accredited college.
- BIOL B33 (Anatomy & Physiology II) four units at Bakersfield College or equivalent course at another accredited college.
- (Anatomy and Physiology requirement can also be met with Human Anatomy (minimum of four units) AND Human Physiology (minimum of four units) of equivalent courses from another accredited college

General education courses are required to graduate from Bakersfield College with an Associate Degree in Nursing. It is suggested that most of these courses be completed prior to beginning the Nursing Program.

- Social Science (three units) – any course listed in Area D3 of the Bakersfield College General Education Pattern
- Arts, Literature, Philosophy, and Foreign Language (three units) – any course as listed in Area C of the Bakersfield College General Education Pattern.
- COMM B1\* or COMM B2\*
- ANTHB2\* or SOC B1\*
- PSYC B1A\*
- Physical Education (one unit) required from PHED courses numbered from B2-B33.
- HLED-Health Education (three units) is waived for RN students
- NURS B100 - Educational Planning (recommended) or -any course listed under Bakersfield College General requirements for graduation. (A student development course is recommended to be taken during the first semester of courses at Bakersfield College to assure priority registration.)

\*Board of Registered Nursing required course; the courses must be completed with a 'C' grade or better. Note: All graduation requirements of the college must be met to earn an Associate of Science in Nursing and to take the NCLEX RN – Licensure Exam.

**First Semester**

Course Number	Title	Units
NURS B20	Fundamentals of Nursing	4.0
NURS B21	Medical Surgical Nursing 1	5.0
NURS B22	Pharmacology	3.0

**Second Semester**

Course Number	Title	Units
NURS B23	Medical Surgical Nursing 2	4.5
NURS B24	Obstetrics - Maternity Nursing	3.0
NURS B25	Mental Health - Psychiatric Nursing	3.5

**Third Semester**

Course Number	Title	Units
NURS B26	Medical Surgical Nursing 3	5.5
NURS B27	Pediatric Nursing	3.5

**Fourth Semester**

Course Number	Title	Units
NURS B28	Medical Surgical Nursing 4	7.0
NURS B29	Gerontology - Community Nursing	2.0

*Conditional Enrollment*

As a condition of enrollment in any Nursing/Allied Health Program, students are required to submit to and pass a designated drug and alcohol screening, a background screening, and physical examination clearance (at the student's expense). Please note the following:

- A history of felony conviction(s) or any bar, exclusion or other ineligibility for federal program participation could render a student ineligible for clinical placement, as determined by the clinical agencies.
- If a student cannot obtain background clearance from the clinical agencies, it will not be possible to place the student in the clinical areas, which is a required component of the program. In the event that a student cannot obtain a background clearance, the space will be forfeited. Students who are found to be ineligible for clinical placement by the clinical agency after admission to the program shall be subject to dismissal from the program, as they will be unable to complete mandatory clinical rotations.
- A physical examination completed by a physician of the student's choice is required after acceptance to the Program to demonstrate that a student meets the technical standards necessary to meet the Program objectives. Appropriate immunizations and/or vaccinations and mask fit testing are also required and are performed at the student's expense.
- More information can be found on the Allied Health web site at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) or in the Bakersfield College Allied Health Office, MS 178.

**LVN to Associate Degree Nursing Program**

**Associate in Science**

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Nursing Associate in Science degree.

*To Transfer Coursework*

A minimum of 20 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

1. demonstrate the standards of competent performance as defined by the California Board of Registered Nursing. The successful graduate will be considered competent when he/she consistently demonstrates the ability to transfer knowledge scientific knowledge from social, biological, and physical sciences in applying the nursing process as follows:

- formulates a nursing diagnosis through observation of the client's physical condition and behavior, and through interpretation of information obtained from the client and others, including the health team.
  - formulates a care plan, in collaboration with the client, which ensures that direct and indirect nursing care services provide for the client's safety, comfort, hygiene, and protection, and for disease prevention and restorative measures.
  - performs skills essential to the kind of nursing action to be taken, explains the health treatment to the client and family and teaches the client and family how to care for the client's health needs.
  - delegates tasks to subordinates based on the legal scopes of practice of the subordinates and on the preparation and capability needed in the tasks to be delegated, and effectively supervises nursing care being given by subordinates.
  - evaluates the effectiveness of the care plan through observation of the client's physical condition and behavior, signs and symptoms of illness, and reactions to treatment and through communication with the client and health team members, and modifies the plan as needed.
  - acts as the client's advocate, as circumstances require, by initiating action to improve health care or to change decisions or activities which are against the interests or wishes of the client, and by giving the client the opportunity to make informed decisions about health care before it is provided.  
(Title 16, California Code of Regulations, Division 14 – Board of Registered Nursing, Article 4, Section 1443.5)
2. perform Nursing practice, which includes those functions, including basic health care, that help people cope with difficulties in daily living that are associated with their actual or potential health or illness problems or the treatment thereof, including all of the following:
- direct and indirect patient care services that ensure the safety, comfort, personal hygiene, and protection of patients; and the performance of disease prevention and restorative measures. (Business and Professions Code, Division 2, Chapter 6, Section 2725)
  - direct and indirect patient care services, including, but not limited to, the administration of medications and therapeutic agents, necessary to implement a treatment, disease prevention, or rehabilitative regimen ordered by and within the scope of licensure of a physician, dentist, podiatrist, or clinical psychologist, as defined by Section 1316.5 of the Health and Safety Code.
  - the performance of skin tests, immunization techniques, and the withdrawal of human blood from veins and arteries.
  - observation of signs and symptoms of illness, reactions to treatment, general behavior, or general physical condition, and:
    - determination of whether the signs, symptoms, reactions, behavior, or general appearance exhibit abnormal characteristics.
    - implementation, based on observed abnormalities, of appropriate reporting, or referral, or standardized procedures, or changes in treatment regimen in accordance with standardized procedures, or the initiation of emergency procedures.

The study of nursing is the application of knowledge from the arts and sciences. The purpose of the Bakersfield College LVN to Associate Degree Program is to provide the foundation for students to become competent registered nurses. The LVN-ADN Program respects the individuality of students and recognizes that each student has different educational, experiential, cultural, spiritual, economic and social backgrounds and a unique support system. The aim of the program is to provide a positive, innovative learning model that fosters the development of critical thinking and problem solving skills so that the graduate nurse is equipped to deliver care to a culturally diverse population in a variety of healthcare settings.

*Mission*

The mission of the Bakersfield College LVN-Associate Degree Nursing Program is to prepare entry-level registered nurses as providers and managers of care across the health/illness continuum and as members within the profession. Graduate nurses will collaborate with members of the health care team, be effective communicators, be politically aware, and demonstrate a commitment to life long learning.

*Prerequisite Requirements*

- All prerequisites must be completed with a C grade or higher.
- ENGL B1A (Expository Composition), 3 units at Bakersfield College or equivalent course at another accredited college.
- MATH B70 or MATH BD (Intermediate Algebra) or higher, 3 units at Bakersfield College or an equivalent course at another accredited college.
- CHEM B11 (Introduction to General, Organic and Biochemistry) or CHEM B1A (General Chemistry) at Bakersfield College or an equivalent Chemistry course (3-5 units) from another accredited college.
- BIOL B16 (General Microbiology) 5 units at Bakersfield College or equivalent course at another accredited college.
- BIOL B32 (Anatomy & Physiology I) 4 units at Bakersfield College or equivalent course at another accredited college.
- BIOL B33 (Anatomy & Physiology II) 4 units at Bakersfield College or equivalent course at another accredited college.
- (Anatomy and Physiology requirement can also be met with Human Anatomy (min. of 4 units) AND Human Physiology (min. of 4 units) of equivalent courses from another accredited college.)
- Proof of IV Certification is required. Students may meet this requirement by taking Meds B66 prior to entering the LVN-ADN Program.
- One year experience working as an LVN.
- Possession of current California Vocational Nurse License.
- American Heart Association BLS - Healthcare Provider card - current within one year. (MEDS B52 fulfills this requirement)
- Overall GPA of 2.5.
- Graduation from high school or an equivalent education.

*General Education*

General education courses are required to graduate from Bakersfield College with an Associate Degree in Nursing. It is suggested that most of these courses be completed prior to beginning the Nursing Program.

- Social Science (3 units) – any course listed in Area D3 of the Bakersfield College General Education Pattern
- Arts, Literature, Philosophy, and Foreign Language (3 units) –any course as listed in Area C of the Bakersfield College General Education Pattern.
- COMM B1\* or COMM B2\*
- ANTHB2\* or SOC B1\*
- PSYC B1A\*
- Physical Education (1 unit) required from PHED courses

numbered from B2-B33 or B49.

- HLED-Health Education (3 units) is waived for RN students
- NURS B100 - Educational Planning - recommended or any course listed under Bakersfield College General requirements for graduation. (A student development course is recommended to be taken during the first semester of courses at Bakersfield College to assure priority registration.)
- \*Board of Registered Nursing required course. Courses must be completed with a C grade or better.

*Note: All graduation requirements of the college must be met to earn an Associate of Science (A.S.) in Nursing and to take the NCLEX RN – Licensure Exam.*

**Application Procedure**

The Allied Health office must receive all application forms and transcripts during the designated filing periods. For detailed information on the application period and procedures, please refer to the Allied Health web site at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) or come to the Bakersfield College Allied Health Office in MS 178.

**Conditional Enrollment**

As a condition of enrollment in any Nursing/Allied Health Program, students are required to submit to and pass a designated drug and alcohol screening, a background screening, and physical examination clearance (at the student’s expense). Please note the following:

- A history of felony conviction(s) or any bar, exclusion or other ineligibility for federal program participation could render a student ineligible for clinical placement, as determined by the clinical agencies.
- If a student cannot obtain background clearance from the clinical agencies, it will not be possible to place the student in the clinical areas, which is a required component of the program. In the event that a student cannot obtain a background clearance, the space will be forfeited. Students who are found to be ineligible for clinical placement by the clinical agency after admission to the program shall be subject to dismissal from the program, as they will be unable to complete mandatory clinical rotations.
- A physical examination completed by a physician of the student’s choice is required after acceptance to the Program to demonstrate that a student meets the technical standards necessary to meet the Program objectives. Appropriate immunizations and/or vaccinations and mask fit testing are also required and are performed at the student’s expense.
- More information can be found on the Allied Health web site at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) or in the Bakersfield College Allied Health Office, MS 178.

**Program Costs**

An estimated cost for the program is approximately \$3,200.

**Transfer and Challenge by Exam Policy**

For transfer and challenge by exam policies, contact the Nursing Department for further information.

**Program Approval/ Accreditation**

The California Board of Registered Nursing approves the Bakersfield College Associate Degree Nursing Program. The Western Association of Schools and Colleges accredits Bakersfield College.

**Licensure/Certification Eligibility**

Record of any misdemeanor and/or felony is subject to review by the Board of Registered Nursing before a RN license may be granted. Anyone who wishes clarification may contact the Board

of Registered Nursing, PO Box 944210, Sacramento, CA 94244. Applicants for RN Licensure must submit a valid Social Security number at the time of application.

**Career Opportunities in Registered Nursing**

Employment in a variety of healthcare facilities and settings.

**LVN-ADN Program Curriculum**

The following courses are taken after the student enters the Program.

**Third Semester**

Course Number	Title	Units
NURS B25	Mental Health - Psychiatric Nursng	3.5
NURS B26	Medical Surgical Nursing 3	5.5
NURS B70	Role Transition: Bridging Nursing Theory to Practice	2.0

**Fourth Semester**

Course Number	Title	Units
NURS B28	Medical Surgical Nursing 4	7.0
NURS B29	Gerontology - Community Nrsng	2.0

**Program Accreditation**

The California Board of Registered Nursing accredits the Bakersfield College Associate Degree Nursing Program. The Western Association of Schools and Colleges accredits Bakersfield College.

**LVN to Non-Degree Nurse (30 unit option)**

Total Units: 30

Students seeking information regarding the 30-unit option preparation for the registered nurse licensing examination may receive further information from the Dean of the Associate Degree Nursing Program. The 30 unit option is specific to California only. As a 30 unit option you are not a graduate of Bakersfield College’s Nursing Program.

**Transfer and Challenge by Exam Policy**

For transfer and challenge by exam policies, contact the Nursing Department for further information.

**Career Opportunities in Registered Nursing**

Employment in a variety of healthcare facilities and settings.

**Prerequisite Requirements**

All prerequisite courses must be completed prior to submission of program application. Courses in-progress at the time of application will not be considered.

1. The following courses must be completed with a grade of ‘C’ or higher:
  - Introductory Physiology (with lab) must meet Board of Registered Nursing requirements in Physiology.
  - General Microbiology (with lab) must meet Board of Registered Nursing requirements in Microbiology.
2. Additional Prerequisites:
  - Graduation from high school or an equivalent education.
  - Possession of a current California Vocational Nurse License.
  - Employment as a LVN for at least 1 year.
  - IV Certification.

### 30 Unit Option Curriculum\*

#### Third Semester

Course Number	Title	Units
NURS B25	Mental Health-Psychiatric Nursing	3.5
NURS B26	Medical Surgical Nursing 3	5.5
NURS B70	Role Transition: Bridging Theory to Practice	2.0

#### Fourth Semester

Course Number	Title	Units
NURS B28	Medical Surgical Nursing 4	7.0
NURS B29	Gerontology - Community Nursing	2.0

\*The prerequisites of microbiology and physiology equal 10 units.

### Vocational Nursing Program

#### Certificate of Achievement

To Achieve the Certificate of Achievement

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Vocational Nursing Certificate of Achievement.

#### Program Learning Outcomes

Upon successful completion, the student will:

1. demonstrate an understanding of how to use and practice basic assessment (data collection), participate in planning, execute interventions in accordance with the care plan or treatment plan, and contribute to evaluation of individualized intervention related to the care plan or treatment plan.
2. perform direct patient/client care by which the student
  - performs basic nursing services.
  - administers medications.
  - applies communication skills for the purpose of patient/client care and education.
  - contributes to the development and implementation of a teaching plan related to self-care for the patient/client.

#### Vocational Nursing Program Mission

The mission of the Bakersfield College Vocational Nursing Program is to prepare entry-level vocational nurses as providers of care across the health/illness continuum and as members within the profession.

#### Prerequisite Requirements

All prerequisites must be completed prior to the start of the Program with a C grade or higher. Priority is provided to students with all prerequisite courses completed at the time of submitting an enrollment form.

- Proof of graduation from high school or an equivalent education.
- BIOL B18 (Essentials of Human Anatomy and Physiology) at Bakersfield College or an equivalent course at another accredited college.
- PSYC B1A (General Psychology) at Bakersfield College or an equivalent course at another accredited college.
- MATH B60 (Elementary Algebra) at Bakersfield College or an equivalent course at another accredited college.
- Eligibility for ENGL B1A (Expository Composition) as demonstrated by qualifying scores on the college assessment test or completion of ENGL B1 or ENGL B50 at Bakersfield College or equivalent course from another accredited college with a C or higher.
- Nurse Assistant certification - highly recommended.
- MEDS B60 (Medical Terminology) - highly recommended.

Note: Students desiring to continue their education and become a registered nurse need to refer to the prerequisites required for the Associate Degree Nursing Program.

#### Application Procedure

The Allied Health office must receive all application forms and transcripts during the designated filing periods. For detailed information on the application period and procedures, please refer to the Allied Health web site at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) in the Bakersfield College Allied Health Office in MS 178.

#### Conditional Enrollment

As a condition of enrollment in any Nursing/Allied Health Program, students are required to submit to and pass a designated drug and alcohol screening, a background screening, and physical examination clearance (at the student's expense). Please note the following:

- A history of felony conviction(s) or any bar, exclusion or other ineligibility for federal program participation could render a student ineligible for clinical placement, as determined by the clinical agencies.
- If a student cannot obtain background clearance from the clinical agencies, it will not be possible to place the student in the clinical areas, which is a required component of the program. In the event that a student cannot obtain a background clearance, the space will be forfeited. Students who are found to be ineligible for clinical placement by the clinical agency after admission to the program shall be subject to dismissal from the program, as they will be unable to complete mandatory clinical rotations.
- A physical examination completed by a physician of the student's choice is required after acceptance to the program to demonstrate that a student meets the technical standards necessary to meet the Program objectives. Appropriate immunizations and/or vaccinations and mask fit testing are also required and are performed at the student's expense.

More information can be found on the Allied Health web site at: [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) or in the Bakersfield College Allied Health Office, MS 178.

#### Program Costs

An estimated cost for the first semester of the program is approximately \$3,200.

#### Transfer and Challenge by Exam Policy

For transfer and challenge by exam policies, contact the Nursing Department for further information.

#### Program Approval/Accreditation

The California Board of Vocational Nursing and Psychiatric Technicians accredits the Bakersfield College Vocational Nursing Program. The Western Association of Schools and Colleges accredits Bakersfield College.

#### Licensure/Certification Eligibility

Conviction of any offenses other than minor traffic violations must be reported to the Board of Vocational Nursing and Psychiatric Technicians at the time of application for licensure. For clarification contact the VN Program Director or the Board of Vocational Nursing and Psychiatric Technicians, 2535 Capitol Oaks Drive, Suite 205, Sacramento, California, 95833, (916) 263-7800. Applicants for VN Licensure must submit a valid Social Security number at the time of application.

**Certificate of Achievement**

Upon completion of the program of study for Vocational Nursing, the student is eligible for a Certificate of Achievement.

**Career Opportunities in Vocational Nursing**

Employment as a Licensed Vocational Nurse in a variety of health care settings.

**Vocational Nurse Program Curriculum**

The following courses are taken after the student enters the Vocational Nursing Program.

**First Semester**

Course Number	Title	Units
VNRS B69	Foundations for Vocational Nursing Practice	3.0
VNRS B68	Basic Medical Surgical Nursing	3.0
VNRS B69L	Foundations for Vocational Nursing Practice-Lab	6.0
VNRS B67	Principles of Pharmacology	2.0

**Second Semester**

Course Number	Title	Units
VNRS B79	Intermediate Medical Surgical Nursing	9.0
VNRS B79L	Intermediate Medical Surgical Nursing-Lab	6.0

**Third Semester**

Course Number	Title	Units
VNRS B89	Advanced Medical Surgical Nursing	3.5
VNRS B89L	Advanced Medical Surgical Nursing-Lab	3.0
VNRS B88	Maternal/Child Nursing	3.0
VNRS B88L	Maternal/Child Nursing-Lab	3.0
VNRS B84	Maternal/Child Pharmacology	1.0
VNRS B83	Critical Thinking and Leadership for the Vocational Nurse	1.5

**Nurse Assistant****Job Skills Certificate****Program Learning Outcomes**

Upon successful completion, the student will:

- demonstrate an understanding of knowledge and skills necessary to provide basic patient care including but not limited to the following skills:
  - performing basic hygiene
  - taking and documenting vital information (vital signs, height, weight)
  - documenting patient care
  - assisting with elimination needs
  - collecting specimens
- demonstrate an understanding of effective communication and interpersonal skills
- promote the independence of patients
- demonstrate an understanding of protection of patient privacy and patient rights
- demonstrate an understanding of safety and emergency procedures including the Heimlich maneuver

The Nurse Assistant course prepares the student to provide services to those who need health care. The student will learn the role of the caregiver, the health care environment, health care safety, adult needs in health and illness, and basic care giving skills.

**Nurse Assistant Program Mission**

The mission of the Bakersfield College Nurse Assistant Program is to provide vocational education that will prepare the student to provide basic services to those who need healthcare. The program is

committed to improving and advancing the health and welfare of our community by preparing competent, safe, health care professionals.

**Enrollment**

Enroll in MEDS B69 through the Bakersfield College. Consult the current class schedule for course offerings. For more information go to [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) or come by the Office of Allied Health in the Math Science building, room 178.

**Conditional Enrollment**

As a condition of enrollment in any Nursing/Allied Health Program, students are required to submit to and pass a designated drug and alcohol screening, a background screening, and physical examination clearance. Please note the following:

- A history of felony conviction(s) or any bar, exclusion or other ineligibility for federal program participation could render a student ineligible for clinical placement, as determined by the clinical agencies.
- If a student cannot obtain background clearance from the clinical agencies, it will not be possible to place the student in the clinical areas, which is a required component of the program. In the event that a student cannot obtain a background clearance, the space will be forfeited. Students who are found to be ineligible for clinical placement by the clinical agency after admission to the program shall be subject to dismissal from the program, as they will be unable to complete mandatory clinical rotations.
- A physical examination completed by a physician of the student's choice is required after acceptance to the Program to demonstrate that a student meets the technical standards necessary to meet the Program objectives. Appropriate immunizations and/or vaccinations and mask fit testing are also required and are performed at the student's expense.

More information can be found on the Allied Health web site at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/) or in the Bakersfield College Allied Health Office, MS 178.

**Program Costs**

An estimated cost for the program (fees, textbooks, uniforms, and examination) is approximately \$1,000. Financial aid may be available.

**Program Approval Accreditation**

The California Department of Public Health approves the Bakersfield College Nurse Assistant Program. The Western Association of Schools and Colleges accredits Bakersfield College.

**Licensure/Certification Eligibility**

Students with a misdemeanor and/or felony arrest conviction, either current or prior, may not receive certification or licensure from the State or County. Also, a Social Security number and fingerprinting are required by State certification/licensure agencies.

Upon successful completion of the Nurse Assistant course, the student is eligible to take the competency exam for a Certified Nurse Assistant administered by the American Red Cross. This provides proof to the California Department of Public Health that the student has met the requirements for licensure. Students must complete the required courses with at least a 'C' grade.

**Total Units: 6**

Employment as a Certified Nurse Assistant in a variety of health care settings.

**Nurse Assistant Curriculum**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
MEDS B69	Nurse Assistant	6.0

**Philosophy**

A major in philosophy has always been and continues to be one of the strongest traditional liberal arts majors in higher education. Some students major in Philosophy as a precursor to graduate work and academic careers, teaching and doing research in Philosophy and Education. Philosophy’s emphasis on critical thinking, theories of knowledge, value and reality, truth, rational argument and proof make it an excellent pre-professional undergraduate major (e.g., for law, theology, medicine, business, computer science) or minor (e.g., for the natural, physical and social science and humanities majors).

**Philosophy**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a ‘C’ grade in each course, the student will be awarded a Philosophy Associate in Arts degree.

*To Transfer Coursework*

A minimum of 22 semester units in the major with a grade of ‘C’ or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- Explicate and evaluate arguments
- Explain major philosophical or religious ideas
- Defend personal positions on important philosophical issues
- Demonstrate clear writing and speaking about philosophical or religious ideas

*Total Units: 22*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PHIL B6a	Introduction to Philosophy	3.0
PHIL B7 or	Introduction to Logic	3.0
PHIL B9	Critical Thinking and Advanced Composition	4.0
PHIL B10	Introduction to Ethics	3.0

**Electives — at least 9 units**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PHIL B12	Ethics of Living and Dying	3.0
PHIL B18	History of Ancient Philosophy	3.0
PHIL B32	World Religions: East	3.0
PHIL B33	World Religions: West	3.0
PHIL B37	Introduction to World Religions	3.0

**Physical Education**

**Physical Education**

**Associate in Arts**

A major in physical education will encourage students to perceive learning as the merging of cognitive, affective, social, and psychomotor domains. A major in physical education allows students to transfer to a four-year university/college and is a starting point for a variety of bachelor’s, master’s and doctorate degrees. A degree in physical education can lead to employment in

a variety of teaching and coaching avenues along with athletics and recreation based jobs, including athletic training, physical therapy, adaptives, etc.

The major requirements for an associate degree in physical education may be satisfied by completing 23 units as outlined below.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a ‘C’ grade in each course, the student will be awarded a Physical Education Associate in Arts degree.

*To Transfer Coursework*

A minimum of 23 semester units in the major with a grade of ‘C’ or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- Critically examine the development of the individual as an integrated physiological, psychological, spiritual, and social being.
- Demonstrate an understanding of the concepts and principles of physical fitness and specific sport skills
- Value physical activity and become a lifelong participant in physical activity
- Achieve a health-enhancing level of physical fitness; and perform the specific activity with an adequate degree of proficiency.

*Total Units: 23*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
HLED B1	Principles of Health Education	3.0
PHED B39a	Prevention and Care of Athletic Injuries	3.0
PHED B40	Introduction to Physical Education	3.0
PHED B31	Standard First Aid	1.0
BIOL B32	Human Anatomy and Physiology I	4.0
BIOL B33	Human Anatomy and Physiology II	4.0

**Electives — at least 5 units from the following**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PHED B5vb	Volleyball (Women)	1.0
PHED B6bb	Basketball	1.0
PHED B6g	Golf	1.0
PHED B6sc	Soccer	1.0
PHED B6t	Tennis	1.0
PHED B6v	Volleyball	1.0
PHED B10	Intercollegiate Football	2.0
PHED B11	Intercollegiate Basketball	2.0
PHED B12	Intercollegiate Track and Field	2.0
PHED B13	Intercollegiate Tennis	2.0
PHED B14	Intercollegiate Baseball	2.0
PHED B16	Intercollegiate Golf	2.0
PHED B17	Intercollegiate Cross-Country	2.0
PHED B20	Intercollegiate Wrestling	2.0
PHED B22	Women’s Intercollegiate Tennis	2.0
PHED B23	Women’s Intercollegiate Soccer	2.0
PHED B24	Intercollegiate Golf for Women	2.0
PHED B25	Women’s Intercollegiate Volleyball	2.0
PHED B26	Women’s Intercollegiate Track and Field	2.0
PHED B27	Women’s Intercollegiate Cross-Country	2.0
PHED B28	Women’s Intercollegiate Basketball	2.0
PHED B29	Women’s Intercollegiate Softball	2.0

**Individual Activities**

Course Number	Title	Units
PHED B3adp	Adaptive Physical Education	1.0
PHED B6a	Archery	1.0
PHED B6bLb	Beginning Ballet (Same as DANC B6bLb)	1.0
PHED B6fcx	Fitness Center	1.0
PHED B6jd	Jazz Dance (Same as DANC B6jd)	1.0
PHED B6wt	Weight Training	1.0
PHED B2sb	Beginning Swimming	1.0

**Physics****Physics****Associate in Science Degree for Transfer**

The goal of the program is to help students better understand the using physical world and the analysis of it through mathematical techniques using qualitative and quantitative reasoning. The coursework prepares students to think critically and apply reasoning skills to analyze real world situations. Students will be able to successfully transfer to any institution of higher learning armed with the foundation needed to pursue a baccalaureate degree in physics and will be prepared for careers as physicists in fields such as research, industry and education. Students will complete comprehensive curriculum to meet degree and transfer needs. This new degree builds upon the existing degree's emphases in mathematical modeling, reasoning and critical thinking skills. In addition, it will guarantee transfer to a California State University in the physics major (or a similar or equivalent program). Upon completion of the degree, students will be able to:

- apply appropriate physical laws and mathematical techniques to analyze various physical situations;
- perform various scientific experiments and to analyze data to check agreement with theoretical predictions.

**Program Learning Outcomes**

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

- demonstrate a knowledge of and recognize the processes that explain physical phenomena.
- apply the methodologies of science when approaching a physics problem.
- apply logical quantitative and qualitative reasoning in solving physics problems or analyzing arguments.

The Associate in Science degree in Physics for Transfer is designed to prepare students to begin upper division course work in pursuit of a bachelor's degree (or ultimately a graduate degree) in physics upon transfer to a four-year college or university. Earning this degree should allow the student to become acquainted with the basic knowledge of physics contained in a calculus-based introductory physics sequence and the mathematics that supports that level of competency. The student will demonstrate proficiency in communication, critical thinking, quantitative problem solving, and laboratory science skills. This degree represents a step in a path preparing students for careers in any of the many branches of physics, physics education, and other technical fields, such as some engineering disciplines in which physics is an integral part. To achieve the Physics Associate in Science degree for transfer, the student will need to complete the following courses with at least a 'C' grade in each course. A "P" (Pass) grade is not acceptable for courses in the major. In order to earn the Physics AS-T, students must complete 60 required semester units of CSU-transferable coursework which includes the CSU General Education or IGETC requirements with a minimum GPA of 2.0. Students transferring to a CSU campus that does accept the AS-T will be required to complete more than 60 units after transfer to earn a bachelor's degree (unless

the major is a designated "high-unit" major). This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements. This degree eliminates the additional Bakersfield College graduation requirements.

**Required Core Courses - 24 Units**

Course Number	Title	Units
PHYS B4A	Mechanics and Wave Motion	4.0
	-and-	
PHYS B4B	Heat, Electricity, Magnetism	4.0
	-and-	
PHYS B4C	Optics and Modern Physics	4.0
	-and-	
MATH B6A	Analytic Geometry/Calculus I	4.0
MATH B6B	Analytic Geometry/Calculus II	4.0
MATH B6C	Calculus III	4.0

**Total Units for the Major****24****Political Science****Political Science****Associate in Arts**

The majors in political science are designed for students interested in gaining an understanding of the structure and functions of governments. The majors are an important part of the liberal arts program and prepare students for further study and careers in education, law, business, government, international relations and journalism.

The student should select the major emphasis, and courses according to his/her area of specialization as well as the requirements of the college to which he/she plans to transfer. The student should also consult his/her counselor and the appropriate four-year college catalogs in determining an appropriate minor, foreign language requirements, and other requirements.

**To Achieve the Associate in Arts**

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Political Science Associate in Arts degree.

**To Transfer Coursework**

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

**Program Learning Outcomes**

Upon successful completion, the student will:

- demonstrate their understanding of the relevance of state and local politics, determining and developing an objective appraisal of major trends in social, economic, and political life.
- evaluate the power relationships between legislative, executive and judicial branches of government.
- compare and contrast the factors that determine the emergence of republican or authoritarian systems of governance.
- evaluate the influence of conflict and cooperation in the international bargaining process.

**Total Units: 18-20**



**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
POLS B1	American Government: National, State and Local	3.0
POLS B2	Comparative Government	3.0
-or-		
POLS B3	International Politics	3.0
POLS B12	Contemporary Issues in California State and Local Government	3.0
-or-		
POLS B16	Vital Political Problems	3.0
HIST B4ab	European Civilization	6.0
-or-		
HIST B17ab	History of the U.S.	6.0
-or-		
HIST B20ab	African American History of the US	6.0
-or-		
HIST B30ab	Chicano History	6.0
ECON B2	Principles of Economics-Macro	3.0
-or-		
PSYC B5	Elementary Statistics for the Behavioral and Social Sciences	5.0
-or-		
MATH B22	Elementary Probability and Statistics	4.0

**Political Science, Emphasis in Domestic Policy**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Political Science, Emphasis in Domestic Policy Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate their understanding of the relevance of state and local politics, determining and developing an objective appraisal of major trends in social, economic, and political life.
- evaluate the power relationships between legislative, executive and judicial branches of government.
- compare and contrast the factors that determine the emergence of republican or authoritarian systems of governance.
- evaluate the influence of conflict and cooperation in the international bargaining process.

*Total Units: 18-20*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
POLS B1	American Government: National, State and Local	3.0
POLS B12	Contemporary Issues in California State and Local Government	3.0
POLS B16	Vital Political Problems	3.0
HIST B17ab	History of the U.S.	6.0
ECON B2	Principles of Economics-Macro	3.0
-or-		
PSYC B5	Elementary Statistics for the Behavioral and Social Sciences	5.0

MATH B22	-or-	Elementary Probability and Statistics	4.0
----------	------	---------------------------------------	-----

**Electives**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
ENGL B2	Advanced Composition & Critical Thinking	4.0
HIST B18	History of California	3.0
PSYC B1a	General Psychology	3.0
SOCI B1	Introduction to Sociology	3.0

**Political Science, Emphasis in International Relations**

**Associate in Arts**

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Political Science, Emphasis in International Relations Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate their understanding of the relevance of state and local politics, determining and developing an objective appraisal of major trends in social, economic, and political life.
- evaluate the power relationships between legislative, executive and judicial branches of government.
- compare and contrast the factors that determine the emergence of republican or authoritarian systems of governance.
- evaluate the influence of conflict and cooperation in the international bargaining process.

*Total Units: 18-20*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
POLS B1	American Government: National, State and Local	3.0
POLS B2	Comparative Government	3.0
POLS B3	International Politics	3.0
HIST B4ab	European Civilization	6.0
ECON B2	Principles of Economics-Macro	3.0
-or-		
PSYC B5	Elementary Statistics for the Behavioral and Social Sciences	5.0
-or-		
MATH B22	Elementary Probability and Statistics	4.0

**Primary Care Associate/Physician's Assistant**

**Prerequisites and Course Requirements**

Stanford University Medical Center administers a program to train individuals who function in association with physicians in the maintenance and delivery of primary health care to medically underserved communities.

Upon completion of the prerequisite pre-clinical program at Bakersfield College or other accredited institutions, students admitted to the program have 15 months of clinical experience coordinated through Stanford University Medical Center. Students participate in didactic course work full-time for the first quarter (3 months) at Stanford Medical Center in Palo Alto, California. Then they complete an equivalent of five days of didactic instruction each month (12 months) thereafter. All clinical experience occurs in an office practice preceptorship. Contact Counseling Department for further information.

#### *Prerequisites*

Minimum requirements for application and admission include:

1. United States citizen or permanent visa.
2. High School Diploma or equivalent.
3. A minimum of 18 months direct patient care experience.
4. Satisfactory completion of the following academic prerequisites or their equivalents.

General Education courses are required for the Primary Care Associate program. It is recommended that an associate degree at Bakersfield College be completed prior to applying to the program.

The student must have a preceptor site established in order to complete the clinical experiences necessary for the program. Some assistance may be available in locating a preceptor.

Upon successful completion of the Primary Care Associate program. The graduate will sit for a certifying examination administered by the National Commission on Certification of Physician's Assistants. Passing this examination allows the Physician's Assistant to perform direct patient services under the supervision of primary care physicians certified by the California Board of Medical Quality Assurance.

#### *Pre-Clinical Program Requirements*

A minimum grade of 'C' must be attained in each of these courses. Only work from a regionally accredited college can be accepted.

Algebra - Elementary. One year of high school math or MATH BA/B60 at Bakersfield College.

Chemistry - Introductory. One year of high school chemistry or equivalent.

Cultural Anthropology or Sociology - ANTH B2, SOCI B1 at Bakersfield College, or another acceptable course.

English Composition Freshman level - ENGL B50 (formerly ENGL B1), ENGL B1a at Bakersfield College, or other acceptable course.

General Psychology - PSYC B1a at Bakersfield College or other acceptable course.

Microbiology with laboratory; BIOL B16 at Bakersfield College, or other acceptable course.

\*American History and Institutions. See Graduation and General Education Section of this catalog.

\*Computer Literacy - Two semester units. Must include experience at a terminal (COMP B2) at Bakersfield College, or other acceptable course.

\*Ethnic Studies - A course that reflects the experience of an American ethnic group.

\*Humanities - One course from List A and one course from List B. (A) Literature, Philosophy (not Logic), or Western Civilization. (B) Art Appreciation, Music Appreciation, or Theatre Arts Appreciation.

\*Physical Education - Four quarter courses or three semester courses.

\*Speech - Public Speaking or interpersonal communication: COMM B1 or COMM B2 at Bakersfield College, or other acceptable course.

\*These courses are required if candidate does not possess an associate in arts, associate in science, or higher academic degree.

## **Psychology**

### *Psychology*

#### **Associate in Arts for Transfer**

The Associate in Arts in Psychology for Transfer is intended for those transfer-directed students who plan to complete an Associate of Arts in Psychology because it guarantees admission to the CSU system (but not to a particular campus or major). In order to earn the Associate in Arts in Psychology for Transfer, students must complete a minimum of 60 required semester units of CSU-transferable coursework which includes the CSU General Education or IGETC requirements with a minimum GPA of 2.0. Students transferring to a CSU campus that does accept the Associate in Arts in Psychology for Transfer will be required to complete no more than 60 units after transfer to earn a bachelor's degree (unless the major is a designated high-unit major). This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements. This degree eliminates the additional Bakersfield College graduation requirements.

The major in psychology provides a study of the behavior of individuals and groups. The four-year degree in this major contributes to the foundational knowledge for positions in research and teaching, counseling, and working in clinical settings.

#### *To Achieve the Associate in Arts for Transfer*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Psychology Associate in Arts for Transfer degree.

#### *To Transfer Coursework*

A minimum of 21 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

#### *Program Learning Outcomes*

Upon successful completion, the student will:

- Demonstrate an understanding of the major concepts of behavior, theoretical perspectives, empirical findings, and historical trends in psychology.
- Demonstrate an understanding of basic research methods and information competency in obtaining relevant information about the science and profession of psychology.
- Exhibit an awareness of the ethical and professional factors related to the diversity of individuals and groups within the discipline of psychology.

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PSYC B1a*	General Psychology	3.0
PSYC B1b*	Biological Psychology	3.0
PSYC B5*	Elementary Statistics for the Behavioral and Life Sciences	5.0
PSYC B6*	Research Methods for the Behavioral and Social Sciences	4.0

**Any two of the following courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
PSYC B2	Interpersonal and Group Process Skills	3.0
PSYC B20*	Social Psychology	3.0
PSYC B30*	Human Sexuality	3.0
PSYC B33*	Psychology of Adjustment	3.0
PSYC B40*	Lifespan Psychology	3.0

**Required Subtotal** **21.0**

**CSU General Education or IGETC Pattern:** **39.0**

**Transfer Electives (as needed to reach 60 transferable units)**

**Degree Total** **60.0**

*\*Courses with an asterisk can be double counted for General Education. No additional graduation requirements are required to complete this degree.*

**Radiologic Technology**

Radiologic Technology is a health care profession whose practitioners work in hospitals, imaging centers, and private physicians' offices. The radiologic technologist (radiographer) is a member of the health care team who works directly with the patient and the physician performing a wide variety of diagnostic x-ray procedures. The role of the graduate radiographer may be that of staff radiographer, special imaging radiographer, supervisor, administrator or educator, depending upon the level of education and experience obtained.

The Bakersfield College Associate in Science degree Radiologic Technology Program provides concurrent didactic and clinical education. The program is 24 months in length (excluding prerequisite coursework) and begins each year in June. Students should anticipate making a full time commitment to the program during the school year. Summer sessions are required and semester/terms may be scheduled beyond the regular college session dates. The Program is primarily scheduled during the day; however an evening clinical rotation will be completed during the second year of the program. Clinical education sites include hospitals and imaging centers located in Bakersfield, California and Delano, California. Students may be assigned to any clinical education center in any geographical location.

The program provides the theory, skill and experience necessary to apply for admission to the licensure exam administered by the American Registry of Radiologic Technologists; and for certification from the State of California, Department of Public Health, Radiologic Health Branch, as a Certified Radiologic Technologist. The student is also eligible to write the State Fluoroscopy Permit exam. Students must earn a minimum grade of 'C' in all radiography courses, have met the State mandated curriculum and clinical hours, met all clinical education competencies and earned the Associate in Science degree to be recommended for these examinations/certifications. For program information, brochure and enrollment application form,

consult the following website at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/)

*Radiologic Technology Program Mission, Goals and Outcomes*  
The mission of the Bakersfield College Radiologic Technology Program is to promote student success by providing quality instruction for graduates to competently practice radiography at the entry level. The Program goals and outcomes are:

1. Students will be clinically competent.
2. Students will critically think and problem solve.
3. Students will demonstrate effective communication skills.
4. Students will demonstrate professional growth and development.
5. The Program will graduate entry-level radiographers.

*Radiologic Technology Program Prerequisite Requirements*

All prerequisite coursework must be completed prior to applying for the Radiologic Technology Program. Students are strongly encouraged to complete prerequisite courses prior to enrolling in general education courses. This will improve a student's opportunity to apply for program enrollment. The following prerequisite courses must be completed with a C grade or higher.

1. BIOL B18 (Essentials of Anatomy and Physiology)  
-or-  
BIOL B32 (Human Anatomy and Physiology I)  
-and-  
BIOL B33 (Human Anatomy and Physiology II)  
-or-  
equivalent course(s) at another accredited college.  
*Note: BIOL B14 (Human Anatomy) and BIOL B15 (Human Physiology) were previously taught at Bakersfield College and they meet this requirement.*
2. MATH BD/B70 (Intermediate Algebra-5 units) at Bakersfield College or equivalent course at another accredited college. A higher level college math course will be accepted in lieu of this algebra requirement.
3. MEDS B60 (Medical Terminology - 3 units) at Bakersfield College or equivalent course at another accredited college.
4. ENGL B1a (Expository Composition - 3 units); or an equivalent course at another accredited college. This prerequisite must be met by all new and Wait List applicants effective February 2013.
5. Minimum cumulative grade point average of 2.7 with Math BD passed on the first attempt  
OR  
A minimum cumulative grade point average of 2.9 with Math BD passed on the second attempt. Withdrawal grades count as an attempt. This prerequisite must be met by all new and Wait List applicants effective February 2013.
6. Graduation from high school or an equivalent education.

*Enrollment Procedures and Application Filing Period*

Application forms and all required documents must be received by the Radiologic Technology Program Office during the application month of February. Late applications will not be accepted. The next application period for new applicants will be February 2013. Due to the large number of students on the current Program Wait List, new applications will not be accepted in 2012. Students currently on the Wait List must refer to #7 under Application Procedures for more information.

*Application Procedures*

1. Complete required prerequisite courses (see above)
2. Obtain application form from the Allied Health Department located in Room 178 of the Math-Science Building on the

- main campus; or by telephone at (661) 395-4284; or on the website at [www2.bakersfieldcollege.edu/alliedhealth/](http://www2.bakersfieldcollege.edu/alliedhealth/)
3. Arrange for an official copy of your high school transcript to be mailed directly to the: Radiologic Technology Program, Bakersfield College, 1801 Panorama Drive, Bakersfield, California 93305. A copy of High School Equivalency (GED) is required if your high school transcript does not identify graduation. Note: You may also hand deliver this transcript providing the transcript is official and sealed.
  4. If you are a Bakersfield College student with no college courses other than Bakersfield College courses: Provide the Program with an unofficial Bakersfield transcript from the college web site or an unofficial transcript from the Admissions and Records Office.
  5. If you have taken courses from any college other than Bakersfield College:
    - Apply for admission to Bakersfield College either in person or online at [www.bakersfieldcollege.edu](http://www.bakersfieldcollege.edu), click on Admissions and Records and follow the directions under "Enrolling".
    - Submit an official copy of your transcripts from your previous college to the Office of Admissions & Records and request an evaluation of your transcripts. This process requires the form "Request for Evaluation". You may obtain this form in the Office of Admissions & Records or on the Bakersfield College under Admissions & Records "Other Forms." Note: This process can take up to 12-16 weeks. Once your transcripts have been evaluated and posted to your Bakersfield College transcript, the student must either print a copy of the Bakersfield College transcript from the website or request one from the Office of Admissions and Records. This evaluation must be completed and then submitted to the Program prior to the end of the Program enrollment filing period during the month of February. It is the responsibility of the student to supply this information to the Program during the month of February prior to the end of the enrollment filing period.
  6. Late application materials will not be considered for the current application period. Applicants are responsible for ensuring that their application is complete. The program is NOT responsible for late materials or incomplete applications. The application must be thoroughly completed and signed to be considered for eligibility.
  7. Students on the Wait List must reapply annually during the enrollment month of February. This is required every year to keep the applicant's file current. If the student does NOT reapply, the student will be removed from the Wait List. Applications will be accepted in February 2012 for current Wait List students only.
  8. Through 2012, if the Radiologic Technology Program has more applicants for enrollment than space available and the current Wait List will fill the next program class of students, priority is provided to residents of the Kern Community College District. This procedure will be eliminated for the 2013 enrollment period.

#### *General Education Requirements*

General education courses are required to graduate from the Bakersfield College Associate in Science degree Radiologic Technology program. It is suggested that these courses be completed prior to program enrollment. Refer to the Bakersfield College General Education and Graduation Requirements in this catalog for more specific information and requirements for the college (the list below does NOT identify all requirements). All students are encouraged to regularly check the college requirements for

graduation to ensure that AS degree requirements will be met at the end of the radiography program.

1. Student Development: It is recommended that students complete this component as they begin college coursework.
2. Computer Studies (3 units) - COMP B2 or COMP B5 or equivalent is necessary to meet Radiologic Technology Program completion.
3. Behavioral Science - Psychology B1a recommended.
4. Arts, Literature, Philosophy and Foreign Language-Humanities - Philosophy B12 recommended.
5. Health Education - Students that successfully complete the Radiologic Technology Program are waived from the Health Education requirement for graduation.
6. Communication, Social Science, and Physical Education: Any course that meets the Associate in Science degree requirements and the general education pattern of the college.
7. An individual who has previously received an associate degree or higher must meet and earn the Associate in Science Degree requirements for the Radiologic Technology Program to meet eligibility requirements for certification and licensure.

#### *Health Requirements and Screenings*

1. A physical examination will be required after the students receive notification of enrollment into the program to demonstrate that a student meets the technical standards necessary to meet the objectives of the program. A copy of the Essential Technical Standards required for Radiologic Technologists may be obtained in the Allied Health Division Office located in the Math-Science building, room 178 or on the program website at [www2.bakersfieldcollege.edu/alliedhealth](http://www2.bakersfieldcollege.edu/alliedhealth).
2. As a condition of enrollment to the Radiologic Technology Program, all students are required to submit to and pass a designated drug and alcohol screen.
3. As a condition of enrollment in any Allied Health Program with a clinical component, students are required to submit to and pass a designated background check. Every student offered space in the program will be required to submit to a background screening as part of his or her clinical requirements for admission. Please note the following:
  - A history of felony conviction(s) or any bar, exclusion or other ineligibility for federal program participation could render a student ineligible for clinical placement, as determined by the clinical agencies.
  - If a student cannot obtain background clearance from the clinical agencies, it will not be possible to place the student in the clinical areas, which is a required component of the program.
  - In the event that a student cannot obtain a background clearance, the space will be forfeited.
  - Students who are found to be ineligible for clinical placement by the clinical agency after admission to the radiography program shall be subject to dismissal from the program, as they will be unable to complete mandatory clinical rotations.
4. Immunizations/health tests are needed for acceptance in a clinical education center and to protect the health and welfare of the student and community. Immunizations may include, but not be limited to, rubella, varicella, Hepatitis B, and Tuberculosis screening and the seasonal flu vaccine is also required.
5. The medical exams, drug/alcohol screens, background screen, immunizations and tests are performed at the expense of the student.

6. The student must possess a current Basic Life Support/CPR (cardiopulmonary resuscitation) card by the American Health Association (Healthcare Provider card). This card must be provided at the start of the program and be kept valid during the entire 24-month program.

*Program Supply Information*

Students will be required to purchase uniforms, textbooks and selected equipment, provide transportation to off campus clinical education centers in Bakersfield, California and Delano, California and pay current college fees. Estimated costs for books, uniforms, fees and required equipment for the first year of the program are approximately \$1,200 to \$1,400. Subsequent semesters require enrollment fees, supplies, books and course syllabi (approximately \$1,200). Additional expenses for the last semester of enrollment also include the program pin and application fees for national and state licensure/registration examinations (approximately \$450).

*Licensure/Certification Eligibility*

The American Registry of Radiologic Technologists (ARRT) requires review of any conviction, misdemeanor or felony, or a sanction by the Program regarding an academic honor code, or review of suspension or dismissal by a radiography program and review of licensure suspension, denial or other disciplinary action by a regulatory authority or certification board other than the ARRT. This review may be conducted prior to or during the program. For more information contact the ARRT at: 1225 Northland Drive, Mendota Heights, MN 55120, (651) 687-0048, or www.rrrt.org. The State Department of Public Health, Radiologic Health Branch and the American Registry of Radiologic Technology requires possession of either a Social Security number or Tax payer ID number to apply for licensure and/or registration.

*Accreditation*

Bakersfield College is accredited by the Western Association of Schools and Colleges. The Radiologic Technology Program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182, (312) 704-5300 or www.jrcert.org. The program is also approved by the State of California, Department of Public Health, Radiologic Health Branch, P.O. Box 997414, MS-7610, Sacramento, CA , 95899-7414, (916) 327-5106 or www.cdph.ca.gov/rhb

*Career Opportunities in Radiologic Technology*

This degree is a Career and Technical Education program which prepares students for both State licensure and national certification in radiography which is necessary for employment in x-ray technology.

**Radiologic Technology**

**Associate in Science**

The following courses are taken after students have been enrolled in the Radiologic Technology Program.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Radiologic Technology Associate in Science degree.

*To Transfer Coursework*

A total of 58.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- competently perform radiographic positioning.

**First Summer Semester**

Course Number	Title	Units
RADT B1a	Introduction to Radiologic Technology	2.0
RADT B1b	Patient Care	2.0
RADT B4a	Introduction to Clinical Education	1.5

**First Fall Semester**

Course Number	Title	Units
RADT B2a	Radiograph Anatomy and Positioning 1	3.0
RADT B3a	Radiographic Principles 1	3.0
RADT B4b	Clinical Education 1	4.0
RADT B12	Radiobiology/Radiation Protect	2.0

**First Spring Semester**

Course Number	Title	Units
RADT B2B	Radiograph Anatomy and Positioning 2	3.0
RADT B3B	Radiographic Principles 2	3.0
RADT B6	Clinical Education 2	4.0
	General Education (if needed)	3.0

**Second Summer Semester**

Course Number	Title	Units
RADT B7	Clinical Education 3	6.5

**Second Fall Semester**

Course Number	Title	Units
RADT B2C	Radiograph Anatomy/Position 3	3.0
RADT B5	Radiation Physics	3.0
RADT B10	Clinical Education 4	6.5

**Second Spring Semester**

Course Number	Title	Units
RADT B9A	Sectional Anatomy/Medical Imag	3.0
RADT B11	Radiographic Pathology	2.0
RADT B30	Principles of Venipuncture	1.0
RADT B13	Clinical Education 5	6.0

**Principles of Fluoroscopy**

**Job Skills Certificate**

This certificate provides fluoroscopy skills for students completing the Associate in Science Radiologic Technology program. The certificate is required as proof of completion to meet the regulations specified by the California Code of Regulations, Title 17: Public Health, Article 8: Additional School Requirements and Record Keeping, Section. 30437. The certificate is part of the Career and Technical Education program which prepares students for State licensure which is necessary for employment in the field of x-ray technology.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Principles of Fluoroscopy Job Skills Certificate.

*To Transfer Coursework*

A minimum of 25.5 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- employ appropriate radiation protection practices for patients and themselves.
- competently perform radiographic positioning.

**Required Courses**

Completion of Radiologic Technology Program courses (some hours are contained within each of the following courses. These courses are state approved by the California Department of Public Health)

Course Number	Title	Units
RADT B2a	Radiographic Anatomy & Positioning 1	3.0
RADT B2b	Radiographic Anatomy & Positioning 2	3.0
RADT B2c	Radiographic Anatomy & Positioning 3	3.0
RADT B3a	Radiographic Principles 1	3.0
RADT B3b	Radiographic Principles 2	3.0
RADT B4a	Introduction to Clinical Education	1.5
RADT B5	Radiation Physics	3.0
RADT B9a	Sectional Anatomy for Medical Imaging	3.0
RADT B9c	Principles of Angiography	1.0
RADT B12	Radiobiology and Radiation Protection	2.0

**Principles of Venipuncture**

**Job Skills Certificate**

The purpose of this certificate is for successful completion of the Principles of Venipuncture course taught at Bakersfield College. The venipuncture regulations and requirements are part of the Health and Safety Code of California, Section 106985. The certificate is necessary for job readiness and to indicate competency for the performance of venipunctures at the job site. The State of California code requires a certificate to indicate proficiency. The certificate is part of the Career and Technical Education program which prepares students for employment in medical imaging and permits individuals to administer contrast media for x-ray examinations as part of their job as a radiologic technologist.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate competency by successfully performing venipuncture techniques on humans in the laboratory setting.

Course Number	Title	Units
RADT B30	Principles of Venipuncture	1.0

*Note: The clinical components of all radiologic technology courses are graded on a Pass/No Pass basis only. Radiologic Technology students are exempt from the maximum of three Pass/No Pass units which may be taken in a semester and from the maximum of 12 Pass/No Pass units which may be applied toward the AS degree at Bakersfield College.*

**Sociology**

**Sociology**

**Associate in Arts for Transfer**

The Associate in Arts in Sociology for Transfer is intended for those transfer-directed students who plan to complete an AA in Sociology because it guarantees admission to the CSU system (but not to a particular campus or major). In order to earn the Associate in Arts in Sociology for Transfer, students must complete a minimum of 60 required semester units of CSU-transferable coursework which includes the CSU General Education or IGETC requirements with a minimum GPA of 2.0. Students transferring to a CSU campus that

does accept the Associate in Arts in Sociology for Transfer will be required to complete no more than 60 units after transfer to earn a bachelor's degree (unless the major is a designated high-unit major). This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements. No additional graduation requirements are required to complete this degree.

Sociology is the study of groups, institutions, social relationships, and social problems in contemporary society. The sociology major prepares the student for careers in law, social work, human services, urban development, law enforcement agencies, public service, counseling, mental health, teaching, and community service. Students will be prepared for a baccalaureate degree in Sociology or a similar degree.

*To Achieve the Associate in Arts for Transfer*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Sociology Associate in Arts for Transfer degree.

*To Transfer Coursework*

A minimum of 19 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate an understanding of the perspectives, theories, methods and core concepts of the social sciences.
- explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
- demonstrate an understanding of and an ability to describe the contributions and perspectives of women, ethnic and other minorities, and Western and non-Western peoples.

*Required Core Courses: 3 units*

Course Number	Title	Units
SOCI B1*	Introduction to Sociology	3.0

**Group A: Any two of the following courses: 7-8 units**

Course Number	Title	Units
SOCI B2*	Problems of Modern Society	3.0
PSYC B5*	Elementary Statistics for the Behavioral and Life Sciences	5.0
PSYC B6*	Research Methods for the Behavioral and Social Sciences	4.0

**Group B: Select two of the following courses: 6 units**

Course Number	Title	Units
SOCI B28*	Introduction to Gender	3.0
SOCI B45*	Minority Relations	3.0
CRIM B1*	Introduction to Criminal Justice	3.0
SOCI B20*	Social Psychology	3.0

**Group C: Select one course from list C which includes the course below and any course in lists A & B not already used: 2 units**

Course Number	Title	Units
SOCI B36*	Sociology of the Chicano	3.0

**Additional Courses**

Any transferable anthropology or psychology course 3.0

**Required Subtotal 19.0**

**CSU General Education or IGETC Pattern: 39.0**

**Transfer Electives (as needed to reach 60 transferable units) 60.0**

**Degree Total 60.0**

*\*Courses with an asterisk can be double counted for General Education. No additional graduation requirements are required to complete this degree.*

**Spanish**

**Spanish**

**Associate in Arts**

The major of Spanish provides a linguistic and grammatical study of the language and an in-depth look into the culture of Spanish-speaking peoples. The objective of the program is to prepare students for transfer to a four-year university. Employment opportunities are numerous, and include both academic and non-academic positions, including working for corporations, business entities, and not-for-profits. Numerous career pathways are open to students demonstrating a proficiency in spoken and written Spanish including, but not limited to, teaching, social service, and retail.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Spanish Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate the ability to use and recognize specific language elements in the use of a language.
- demonstrate an understanding of, and an ability to describe, the ways in which foreign languages reflect historical and cultural contexts.
- transmit a comprehensive knowledge of the cultural heritage being studied.

*Total Units: 18*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
SPAN B1	Elementary Spanish I	5.0
SPAN B2	Elementary Spanish II	5.0
SPAN B3	Intermediate Spanish I	4.0
SPAN B4	Intermediate Spanish II	4.0
	<i>-or-</i>	
SPAN B36	Spanish for Heritage Speakers II	4.0

**Theatre Arts**

**Theatre Arts**

**Associate in Arts**

Students must comply with the requirements as shown in the catalog

under graduation requirements. Students should seek the advice of a theatre instructor, counselor or advisor for assistance in planning for an associate degree. Career opportunities include acting, directing, technical theatre, stage management, TV/film careers (behind and in front of the camera), teaching, public speaking, and politics.

*To Achieve the Associate in Arts*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Theatre Arts Associate in Arts degree.

*To Transfer Coursework*

A minimum of 18 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate the ability to recognize, describe, and/or effectively produce various components of a performing art form.
- demonstrate an understanding and appreciation of the ways in which arts reflect historical, intellectual, and cultural contexts, as well as aesthetic tastes.

*Total Units: 18*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
THEA B2ab	Elements of Acting	6.0
THEA B27	Acting Theatre Laboratory	4.0
THEA B28	Technical Theatre Laboratory	2.0
THEA B12a	Introduction to Shakespeare	3.0
THEA B1	Introduction to Acting	3.0

*Note: Theatre majors should enroll for at least one unit of THEA B27 or THEA B28 per semester.*

**Electives**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
THEA B31	Introduction to Film Studies	3.0
THEA B32	Contemporary Film Studies	3.0
ART B1	Art Appreciation	3.0
ART B2	Drawing I	3.0
WOOD B1	Introduction to Woodworking Technologies	3.0
DANC B6bLb	Beginning Ballet	1.0
DANC B6jd	Jazz Dance	1.0
DANC B6md	Modern Dance	1.0
THEA B20	Introduction to Theatre	3.0

**Welding**

**Blueprint Reading and Layout for Welders**

**Job Skills Certificate**

This certificate covers the principles of blueprint reading as it applies to welders. Emphasis is placed on the ability to visualize and interpret working drawings. Welding symbols and basic shop math are included. Layout techniques including mathematical and pipe fitting technology are covered. Career opportunities include blueprint reading and layout in the welding industry.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in

each course, the student will be awarded a Blueprint Reading and Layout for Welders Job Skills Certificate.

*To Transfer Coursework*

A minimum of 6 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or for certification in the department programs.

*Total Units: 6*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
WELD B54a	Blueprint Reading for Welders and Machinists	3.0
WELD B54b	Template Development and Layout for the Welder	3.0

**Gas Metal Arc/Gas Tungsten Arc Welding/Flux Core Arc Welding  
Job Skills Certificate**

This certificate emphasizes welding processes of gas metal arc welding (GMAW), gas tungsten arc welding (GTAW) and flux core arc welding (FCAW). Theory and application as well as safety of these applications while welding on mild steel, aluminum and stainless steel are emphasized.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Gas Metal Arc/Gas Tungsten Arc Welding/Flux Core Arc Welding Job Skills Certificate.

*To Transfer Coursework*

A minimum of 8 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or certification in the department programs.

*Total Units: 8*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WELD B74a	Introduction to GMAW (Gas Metal Arc Welding) and FCAW (Flux Core Arc Welding)	2.0

WELD B74b Introduction to Gas Tungsten Arc Welding 2.0

**Shielded Metal Arc Welding  
Job Skills Certificate**

This certificate emphasizes welding processes from oxy-acetylene cutting and brazing through shielded metal arc welding using many different welding electrodes and all positions. Blueprint reading and pattern layouts for welding are highlighted. Career opportunities include entry level welding jobs requiring the use of the SMAW process, blueprint reading, and layout.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Shielded Metal Arc Welding Job Skills Certificate.

*To Transfer Coursework*

A minimum of 14 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or for certification in the department programs.

*Total Units: 14*

**Required Courses**

<i>Course Number</i>	<i>Title</i>	<i>Units</i>
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WELD B53ab	Shielded Metal Arc Welding	4.0
WELD B54a	Blueprint Reading for Welders and Machinists	3.0
WELD B54b	Template Development and Layout for the Welder	3.0

**Welding  
Certificate of Achievement**

Students must comply with the requirements as shown in the catalog under certificate requirements. Students should seek the advice of a welding instructor, counselor or advisor for assistance in planning for a welding Certificate of Achievement. Career opportunities include jobs requiring the ability to weld in multiple processes, to interpret and create blueprints, to perform layout operations, and to perform basic machining tasks.

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Welding Certificate of Achievement.

*To Transfer Coursework*

A minimum of 32 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.



*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program or for certification in the department programs.

Total Units: 32

**Required Courses**

Course Number	Title	Units
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WELD B53ab	Shielded Metal Arc Welding	4.0
WELD B55ab	Structural Plate Certification I, II	4.0
WELD B55cd	ASME Pipe Certification	4.0
WELD B65ab	Welded Steel Structures	3.0
WELD B74a	Introduction to GMAW (Gas Metal Arc Welding) and FCAW (Flux Core Arc Welding)	2.0
WELD B74b	Introduction to Gas Tungsten Arc Welding	2.0
MFGT B1ab	Machine Tool Processes	3.0
WELD B54a	Blueprint Reading for Welders & Machinists	3.0
INDT B10	Occupational Readiness <i>-or equivalent-</i>	3.0

**Industrial Technology, Welding Option Associate in Science**

Students must comply with the requirements as shown in the catalog under graduation requirements. Students should seek the advice of a welding instructor, counselor or advisor for assistance in planning for a associate degree. Career opportunities include jobs requiring skills in welding and layout.

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Industrial Technology, Welding Option Associate in Science degree.

*To Transfer Coursework*

A minimum of 39-40 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the welding industry.
- demonstrate problem solving skills used in product design and development in the welding industry.

Total Units: 39-40

**Required Courses**

Course Number	Title	Units
WELD B1a	Introduction to Oxygen Acetylene Welding and Cutting	2.0
WELD B1b	Introduction to the Welding Processes	2.0
WELD B53ab	Shielded Metal Arc Welding	4.0
WELD B55ab	Structural Plate Certification I, II	4.0
WELD B55cd	ASME Pipe Certification	4.0

WELD B74a	Introduction to GMAW (Gas Metal Arc Welding) and FCAW (Flux Core Arc Welding)	2.0
WELD B74b	Introduction to Gas Tungsten Arc Welding	2.0
WELD B54a	Blueprint Reading for Welders & Machinists	3.0
WELD B54b	Template Development and Layout for the Welder	3.0
WELD B65ab	Welded Steel Structures	3.0
MFGT B1ab	Machine Tool Processes	3.0
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDT B271	Special Problems in Welding	2-3.0
INDT B10	Occupational Readiness <i>-or equivalent-</i>	3.0

**Welding Certification Job Skills Certificate**

This certificate emphasizes welding processes of SMAW, GMAW, FCAW, Oxy/Acetylene cutting, and Blueprint Reading. Theory and application as well as safety of these processes while welding on mild steel are emphasized. This program prepares students for careers in Welding Entry Level Welding Job.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a "B" grade in each course, the students will be awarded a Welding Certification Job Skills Certificate.

*Program Learning Outcomes*

Upon successful completion, the student will:

- demonstrate proficiency in technical skills and safety principles required for employment in the welding industry.
- Students will demonstrate problem solving skills used in product design and development in the welding industry.
- Students will demonstrate an understanding of the core material required for A.W.S. certification in the welding program.

Total Units: 13

**Required Courses**

Course Number	Title	Units
WELD B81	Introduction to Welding and Cutting	2.0
WELD B54A	Blueprint Reading for Welders and Machinists	3.0
WELD B53A	Shielded Metal Arc Welding	2.0
WELD B74a	Introduction to GMAW & FCAW	2.0
WELD B55A	Structural Plate Certification I	2.0
WELD B55B	Structural Plate Certification II	2.0

**Woodworking/Cabinetmaking Woodworking/Cabinetmaking**

**Job Skills Certificate**

This certificate covers the principles of woodworking to include materials, hand tools, wood cutting machinery and wood finishing. Emphasis will be put on designs to include modular construction, new materials and processes. Advanced bidding techniques are discussed.

*To Achieve the Job Skills Certificate*

Upon completion of the following courses with at least a 'C' grade

in each course, the student will be awarded a Woodworking/Cabinetmaking Job Skills Certificate.

*To Transfer Coursework*

A minimum of 6 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will

- demonstrate proficiency in technical skills and safety principles required for employment in the woodworking/cabinetmaking industry.
- demonstrate problem solving skills used in product design and development in the woodworking industry.
- demonstrate a deep understanding of the core material required for certification in the woodworking program.

Total Units: 6

**Select 6 units from the following**

Course Number	Title	Units
WOOD B1	Introduction to Woodworking Technologies	3.0
WOOD B2	Furniture and Cabinetmaking	3.0
WOOD B5	Intermediate Cabinetmaking	3.0

**Cabinetmaking**

**Certificate of Achievement**

*To Achieve the Certificate of Achievement*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded a Cabinetmaking Certificate of Achievement.

*To Transfer Coursework*

A minimum of 33 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will

- demonstrate proficiency in technical skills and safety principles required for industrial employment.
- demonstrate problem solving skills used in industrial design and product development.
- demonstrate a deep understanding of the core material required for transfer to a four year university degree program and/or certification in the department programs.

Total Units: 33

**Required Courses**

Course Number	Title	Units
WOOD B1	Introduction to Woodworking Technologies	3.0
WOOD B2	Furniture and Cabinetmaking	3.0
CNST B1	Introduction to Construction	3.0
WOOD B5	Intermediate Cabinetmaking	3.0
WOOD B65a	Advanced Cabinetmaking	3.0
WOOD B65b	Advanced Cabinetmaking	3.0
ENGL	Approved Course	4.0
MATH B50	Modern College Arithmetic & Pre-Algebra	4.0
	-or-	
	Math Placement Assessment Level 2 or Above	
INDR B10	Introduction to Industrial Drawing and Graphics	1.0

INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Electives — to equal 33 units**

Course Number	Title	Units
INDT B274	Special Problems in Woodworking	2-3.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
FORE B2	Natural Resources	3.0
ENGL B50	Introduction to College Composition	4.0

**Industrial Technology, Woodworking and Cabinetmaking Option**

**Associate in Science**

*To Achieve the Associate in Science*

Upon completion of the following courses with at least a 'C' grade in each course, the student will be awarded an Industrial Technology, Woodworking and Cabinetmaking Associate in Science degree.

*To Transfer Coursework*

A minimum of 29 semester units in the major with a grade of 'C' or better while maintaining a minimum grade point average of at least 2.0 in all California State University transferable coursework.

*Program Learning Outcomes*

Upon successful completion, the student will

- demonstrate proficiency in technical skills and safety principles required for employment in the woodworking/cabinetmaking industry.
- demonstrate problem solving skills used in product design and development in the woodworking industry.
- demonstrate a deep understanding of the core material required for certification in the woodworking program.

Total Units: 29

**Required Courses**

Course Number	Title	Units
WOOD B1	Introduction to Woodworking Technologies	3.0
WOOD B2	Furniture and Cabinetmaking	3.0
WOOD B5	Intermediate Cabinetmaking	3.0
WOOD B65a	Advanced Cabinetmaking	3.0
WOOD B65b	Advanced Cabinetmaking	3.0
FORE B1	Introduction to Forestry	3.0
INDR B11	Introduction to Computer Aided Drafting and Design (CAD)	1.0
INDR B20a	Computer Aided Drafting and Design (CAD)	3.0
INDR B10	Introduction to Industrial Drawing and Graphics	1.0
CNST B1	Introduction to Construction	3.0
INDT B10	Occupational Readiness	3.0
	-or equivalent-	

**Suggested Courses**

Course Number	Title	Units
FORE B2	Natural Resources	3.0
INDR B30b	Industrial Drawing	3.0
MFGT B1ab	Machine Tool Processes	3.0