

**SAN BERNARDINO VALLEY COLLEGE
SUBMITTED FOR BOARD OF TRUSTEE APPROVAL**

NEW COURSES			
COURSE ID		EFF DATE	RATIONALE
BIOL 290	<p>Course title: Biotechnology I</p> <p>Units: 5 units</p> <p>Lecture: 4 hours</p> <p>Laboratory: 3 hours</p> <p>Prerequisite: BIOL 201 or BIOL 102; and CHEM 101 or CHEM 150 or CHEM 150H</p> <p>Catalog Description: This course will focus on basic principles of cellular and molecular biology and laboratory methods utilized in the biotechnology industry. Students will learn the foundations of lab safety and documentation, skills in the maintenance and calibration of basic lab equipment, calculation and preparation of laboratory solutions and principles of separation of cellular components and macromolecules.</p> <p>Schedule Description: This course will focus on basic principles of cellular and molecular biology as it relates to biotechnology and laboratory methods utilized in the biotechnology industry.</p>	FA06	Our Biology students are largely directed into four year programs to advance their knowledge and science base. The Biology program would benefit tremendously by offering courses that can direct students of biology directly into entry level jobs in the biotech industry. Many of the community colleges in Los Angeles and San Diego already have Biotechnology Programs in place and have partnerships with companies that employ their students.
BIOL 291	<p>Course Title: Biotechnology II</p> <p>Units: 5 units</p> <p>Lecture: 3 hours</p> <p>Laboratory: 6 hours</p> <p>Prerequisite: BIOL 290</p> <p>Catalog Description: This course will expand on the principles of cellular and molecular biology as applied in the biotechnology laboratory. Laboratory work will include DNA & RNA isolations, DNA amplification and sequencing, recombinant techniques, restriction analysis of DNA and protein purification and analysis.</p> <p>Schedule Description: This course will expand on the principles of cellular and molecular biology as applied in the biotechnology laboratory.</p>	FA06	The Biology program would benefit tremendously by offering courses that can direct students of biology directly into entry level jobs in the biotech industry. Many of the community colleges in Los Angeles and San Diego already have Biotechnology Programs in place and have partnerships with companies that employ their students.

MODIFY COURSES			
COURSE ID		EFF DATE	RATIONALE
ENGL 122X4	<p><input checked="" type="checkbox"/> HOURS: LABORATORY: 6 hours</p> <p><input checked="" type="checkbox"/> PREREQUISITE: ENGL 101 or ENGL 101H</p>	FA05	To reflect changes in curriculum.
GEOG 106	<p><input checked="" type="checkbox"/> TITLE: Geographic Perspectives on the Environment</p> <p><input checked="" type="checkbox"/> DESCRIPTIONS:</p> <p>Catalog Description: Introductory study of the latest geographic perspectives of critical environmental issues occurring within and across local, regional, national, and global scales. Creates an awareness of the geography of human-environment relationships, in particular how nature and natural resources are defined, contested, distributed, and consumed. Emphasis is on social, political, cultural, psychological, and economic evaluation of natural resources and associated resource management, occurring in place and across space and including exploitation, conservation, and preservation values.</p> <p>Schedule Description: Introductory study of the latest geographic perspectives of critical environmental issues occurring within and across local, regional, national, and global scales. Creates an awareness of the geography of human-environment relationships, in particular how nature and natural resources are defined, contested, distributed, and consumed.</p>	FA06	<p>The course title is being modified in order to better reflect the unique contribution of geography to environmental studies. It additionally suggests avenues of learning and research otherwise foreclosed by the existing title.</p> <p>The existing catalogue and schedule descriptions only implicitly suggest the centrality of geography to environmental studies within the GEOG 106 course. The proposed descriptions explicitly suggest the centrality of space, place, and scale. In addition, the proposed catalogue description more clearly articulates social scientific theory and psychological factors, items that have been identified as somewhat lacking within the existing course.</p>
WSE 140	<p><input checked="" type="checkbox"/> NUMBER: WST 140</p> <p><input checked="" type="checkbox"/> DESCRIPTIONS:</p> <p>Catalog and Schedule Descriptions: A general introduction to the principles and practice of hydraulics and water quality in the field of water supply distribution. Prepares students for the Department of Health Services (DHS) Grade I exam.</p>	FA06	To reflect the department name change and the latest changes in water treatment industry.
WSE 141	<p><input checked="" type="checkbox"/> NUMBER: WST 141</p> <p><input checked="" type="checkbox"/> PREREQUISITE: WST 140</p> <p><input checked="" type="checkbox"/> DESCRIPTIONS:</p> <p>Catalog and Schedule Descriptions: Operation and maintenance of water distribution systems.</p>	FA06	To reflect the department name change and the latest changes in water treatment industry.
WSE 142	<p><input checked="" type="checkbox"/> NUMBER: WST 142X2</p> <p><input checked="" type="checkbox"/> REPEATABILITY: TWO</p>	FA06	To reflect the department name change and the latest changes in water treatment industry.
WSE 143	<p><input checked="" type="checkbox"/> NUMBER: WST 143</p> <p><input checked="" type="checkbox"/> TITLE: Advanced Domestic Water Treatment</p> <p><input checked="" type="checkbox"/> PREREQUISITE: WST 142X2</p> <p><input checked="" type="checkbox"/> DESCRIPTIONS:</p> <p>Catalog and Schedule Descriptions: Advanced study of water treatment methods and techniques used to supply water for domestic purposes. Prepares students for California Department of Health Certification as a Water Treatment Operator for Grade Level III and IV.</p>	FA06	To reflect the department name change and the latest changes in water treatment industry.

Curriculum Meetings: 03-28-05; 04-11-05; 05-02-05; 05-09-05

Conjoint Meeting: 05-17-05 (electronic)

Board of Trustee Meeting: 06-09-05

MODIFY COURSES (continued)			
COURSE ID		EFF DATE	RATIONALE
WSE 144	<input checked="" type="checkbox"/> NUMBER: WST 144 <input checked="" type="checkbox"/> TITLE: Cross-Connection Control	FA06	To reflect the department name change and the latest changes in water treatment industry.
WSE 145	<input checked="" type="checkbox"/> NUMBER: WST 140 <input checked="" type="checkbox"/> PREREQUISITE: WST 144	FA06	To reflect the department name change and the latest changes in water treatment industry.
WSE 146	<input checked="" type="checkbox"/> NUMBER: WST 146	FA06	To reflect the department name change and the latest changes in water treatment industry.
WSE 147	<input checked="" type="checkbox"/> NUMBER: WST 140 <input checked="" type="checkbox"/> PREREQUISITE: WST 146	FA06	To reflect the department name change and the latest changes in water treatment industry.

DELETE COURSES		
COURSE ID	EFF DATE	RATIONALE
CHEM 216	FA05	TO REFLECT CHANGES TO CURRICULUM
ENVT 101	FA05	TO REFLECT CHANGES TO CURRICULUM
ENVT 103	FA05	TO REFLECT CHANGES TO CURRICULUM
ENVT 105	FA05	TO REFLECT CHANGES TO CURRICULUM
ENVT 107	FA05	TO REFLECT CHANGES TO CURRICULUM
ENVT 109	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 030X2	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 032X2	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 101-102	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 120X2	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 130	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 132	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 148	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 180	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 290	FA05	TO REFLECT CHANGES TO CURRICULUM
FCS 292	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 011	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 012	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 021	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 190	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 191	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 208	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 209	FA05	TO REFLECT CHANGES TO CURRICULUM
NURS 285	FA05	TO REFLECT CHANGES TO CURRICULUM
PHT 021	FA05	TO REFLECT CHANGES TO CURRICULUM
PSYTC 021	FA05	TO REFLECT CHANGES TO CURRICULUM
PUBAD 100	FA05	TO REFLECT CHANGES TO CURRICULUM
PUBAD 101	FA05	TO REFLECT CHANGES TO CURRICULUM
PUBAD 105	FA05	TO REFLECT CHANGES TO CURRICULUM
PUBAD 198	FA05	TO REFLECT CHANGES TO CURRICULUM

DISTRIBUTED EDUCATION		
COURSE ID	EFF DATE	
ENGL 101	FA05	100% ONLINE

DELETE DEGREES		
DEGREE	EFF DATE	RATIONALE
FAMILY & CONSUMER SCIENCE A.S.	FA05	TO REFLECT CHANGES TO CURRICULUM

Curriculum Meetings: 03-28-05; 04-11-05; 05-02-05; 05-09-05
 Conjoint Meeting: 05-17-05 (electronic)
 Board of Trustee Meeting: 06-09-05

NEW DEGREES																															
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BIOCHEMISTRY A.S.	<p>Students planning to transfer to a four-year institution and major in chemistry or biochemistry should consult with a counselor regarding the transfer process and lower division requirements because additional courses may be required at some institutions.</p> <p>BIOCHEMISTRY</p> <p>ASSOCIATE OF SCIENCE DEGREE</p> <p>To graduate with a specialization in Biochemistry, students must complete the following required courses plus the general breadth requirements for the Associate's Degree. The A.S. in Biochemistry is designed to prepare students who wish to pursue a Bachelor's Degree in Biochemistry from a four-year institution and specialize in the chemical interactions that pertain to biological systems.</p> <table><tr><td>REQUIRED COURSES:</td><td>UNITS</td></tr><tr><td>CHEM 150 or CHEM 150H General Chemistry I</td><td>5</td></tr><tr><td>CHEM 151 or CHEM 151H General Chemistry II</td><td>5</td></tr><tr><td>CHEM 212 or CHEM 212H Organic Chemistry I</td><td>4</td></tr><tr><td>CHEM 213 or CHEM 213H Organic Chemistry II</td><td>4</td></tr><tr><td>BIOL 201 Cell and Molecular Biology</td><td>4</td></tr><tr><td>BIOL 202 Organismal Biology and Ecology</td><td>4</td></tr><tr><td>MATH 250 Single Variable Calculus I</td><td>4</td></tr><tr><td>MATH 251 Single Variable Calculus II</td><td>4</td></tr><tr><td>TOTAL UNITS:</td><td>34</td></tr><tr><td colspan="2">RECOMMENDED COURSES</td></tr><tr><td>*PHYSIC 150A or PHYSIC 200 General Physics I</td><td>5-6</td></tr><tr><td>*PHYSIC 150B or PHYSIC 201 General Physics II</td><td>5-6</td></tr><tr><td colspan="2">*These physics courses are typically prerequisites for third year biochemistry majors. Students are encouraged to complete the recommended physics courses to prevent the postponement of continued coursework in this major.</td></tr></table>	REQUIRED COURSES:	UNITS	CHEM 150 or CHEM 150H General Chemistry I	5	CHEM 151 or CHEM 151H General Chemistry II	5	CHEM 212 or CHEM 212H Organic Chemistry I	4	CHEM 213 or CHEM 213H Organic Chemistry II	4	BIOL 201 Cell and Molecular Biology	4	BIOL 202 Organismal Biology and Ecology	4	MATH 250 Single Variable Calculus I	4	MATH 251 Single Variable Calculus II	4	TOTAL UNITS:	34	RECOMMENDED COURSES		*PHYSIC 150A or PHYSIC 200 General Physics I	5-6	*PHYSIC 150B or PHYSIC 201 General Physics II	5-6	*These physics courses are typically prerequisites for third year biochemistry majors. Students are encouraged to complete the recommended physics courses to prevent the postponement of continued coursework in this major.		FA06	The A.S. in Biochemistry is designed to prepare students who wish to pursue a Bachelor's Degree in Biochemistry from a four-year institution and specialize in the chemical interactions that pertain to biological systems.
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CHEMISTRY A.S.	<p>Students planning to transfer to a four-year institution and major in chemistry or biochemistry should consult with a counselor regarding the transfer process and lower division requirements because additional courses may be required at some institutions.</p> <p>CHEMISTRY ASSOCIATE OF SCIENCE DEGREE</p> <p>To graduate with a specialization in Chemistry, students must complete the following required courses plus the general breadth requirements for the Associate's Degree. The A.S. in Chemistry is designed to prepare students who wish to pursue a Bachelor's Degree from a four-year institution. At the four-year institution, students may choose to specialize in one particular aspect of chemistry, such as Environmental Chemistry, Organic Chemistry, Atmospheric Chemistry, or Physical Chemistry.</p> <table><tr><td>REQUIRED COURSES:</td><td>UNITS</td></tr><tr><td>CHEM 150 or CHEM 150H General Chemistry I</td><td>5</td></tr><tr><td>CHEM 151 or CHEM 151H General Chemistry II</td><td>5</td></tr><tr><td>CHEM 212 or CHEM 212H Organic Chemistry I</td><td>4</td></tr><tr><td>CHEM 213 or CHEM 213H Organic Chemistry II</td><td>4</td></tr><tr><td>MATH 250 Single Variable Calculus I</td><td>4</td></tr><tr><td>MATH 251 Single Variable Calculus II</td><td>4</td></tr><tr><td>TOTAL UNITS:</td><td>26</td></tr><tr><td colspan="2">RECOMMENDED COURSES</td></tr><tr><td>*PHYSIC 150A or PHYSIC 200 General Physics I</td><td>5-6</td></tr><tr><td>*PHYSIC 150B or PHYSIC 201 General Physics II</td><td>5-6</td></tr><tr><td colspan="2">*These physics courses are typically prerequisites for third year chemistry majors. Students are encouraged to complete the recommended physics courses to prevent the postponement of continued coursework in this major.</td></tr></table>	REQUIRED COURSES:	UNITS	CHEM 150 or CHEM 150H General Chemistry I	5	CHEM 151 or CHEM 151H General Chemistry II	5	CHEM 212 or CHEM 212H Organic Chemistry I	4	CHEM 213 or CHEM 213H Organic Chemistry II	4	MATH 250 Single Variable Calculus I	4	MATH 251 Single Variable Calculus II	4	TOTAL UNITS:	26	RECOMMENDED COURSES		*PHYSIC 150A or PHYSIC 200 General Physics I	5-6	*PHYSIC 150B or PHYSIC 201 General Physics II	5-6	*These physics courses are typically prerequisites for third year chemistry majors. Students are encouraged to complete the recommended physics courses to prevent the postponement of continued coursework in this major.		FA06	TO REFLECT CURRICULUM CHANGES
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GEOGRAPHY A.S.	<p>GEOGRAPHY ASSOCIATE OF SCIENCE DEGREE</p> <p>To graduate with a specialization in Geography, students must complete the following required courses plus the general breadth requirements for the Associate Degree (total = 60 units).</p> <table><tr><td>REQUIRED COURSES:</td><td>UNITS</td></tr><tr><td>GEOG 102 Cultural Geography</td><td>3</td></tr><tr><td>GEOG 106 Geographic Perspectives on the Environment</td><td>3</td></tr><tr><td>GEOG 110 Physical Geography</td><td>3</td></tr><tr><td>GEOG 111 Physical Geography Laboratory</td><td>1</td></tr><tr><td>or</td><td></td></tr><tr><td>GEOG 285 Honors in Physical Geography</td><td>(1)</td></tr><tr><td>GEOG 114 Weather and Climate</td><td>4</td></tr><tr><td>GEOG 120 World Regional Geography</td><td>3</td></tr><tr><td>Any Economics Course</td><td>(3)</td></tr><tr><td>or</td><td></td></tr><tr><td>Any Statistics Course</td><td>(3)</td></tr><tr><td>or</td><td></td></tr><tr><td>Any GIS Course</td><td>(3)</td></tr><tr><td>TOTAL UNITS:</td><td>20</td></tr></table>	REQUIRED COURSES:	UNITS	GEOG 102 Cultural Geography	3	GEOG 106 Geographic Perspectives on the Environment	3	GEOG 110 Physical Geography	3	GEOG 111 Physical Geography Laboratory	1	or		GEOG 285 Honors in Physical Geography	(1)	GEOG 114 Weather and Climate	4	GEOG 120 World Regional Geography	3	Any Economics Course	(3)	or		Any Statistics Course	(3)	or		Any GIS Course	(3)	TOTAL UNITS:	20	FA06	TO REFLECT CUIRRICULUM CHANGES												
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MACHINIST TECHNOLOGY A.S.	<p>MACHINIST TECHNOLOGY ASSOCIATE OF SCIENCE DEGREE</p> <p>To graduate with a specialization in one of the following five Machinist Technology majors, (1) Machine Technology, (2) Machinist Standard, (3) Tool and Die, (4) Computer Numerical Control CAD/CAM, (5) Mechanical Hydraulics/ Pneumatics, students must complete all the requirements for the appropriate certificate with a grade of C or better plus the general breadth requirements for the Associate Degree (minimum total = 60 units).</p> <p>Machinist Technology Certificates</p> <p>Students working for certificates must have a basic knowledge of arithmetic, reading, and writing in order to learn and work in the occupations they select.</p> <p>The following is a list of six Machinist Technology Certificates and the number of credits required for each certificate:</p> <table><tr><td>Name of the Certificate</td><td colspan="2">Units Required for the Certificate</td></tr><tr><td></td><td>Specialized Courses</td><td>Core Courses**</td></tr><tr><td>(1) Machine Technology</td><td></td><td>25</td></tr><tr><td>(2) Machinist Standard</td><td>6</td><td>25</td></tr><tr><td>(3) Tool and Die</td><td>14</td><td>25</td></tr><tr><td>(4) Computer Numerical Control: CAD/CAM</td><td>18</td><td>25</td></tr><tr><td>(5) Mechanical Hydraulics/ Pneumatics</td><td>27</td><td>N/A</td></tr><tr><td>(6) Basic Operation Computerized Numerical Control (CNC)</td><td>16</td><td>N/A</td></tr></table> <p>Note:</p> <ul style="list-style-type: none">• Basic Operation Computerized Numerical Control (CNC) certificate is not applicable towards Associate of Science in Machinist Technology degree.• Students are required to take specialized courses and additional core courses in order to receive the following certificates: Machinist Standard Certificate; Tool and Die Certificate; and Computer Numerical Certificate <p>**Core Courses:</p> <table><tr><td></td><td>Units</td></tr><tr><td>MACH 120B Machine Shop Theory</td><td>2</td></tr><tr><td>MACH 021B Machine Shop I</td><td>4</td></tr><tr><td>MACH 022B Machine Shop II</td><td>4</td></tr><tr><td>MACH 123A Machine Shop III</td><td>4</td></tr><tr><td>MACH 124A Machine Shop IV</td><td>4</td></tr><tr><td>MACH 090B Engineering Blueprint Reading, Geometric Dimensioning and Tolerancing</td><td>3</td></tr><tr><td>TECALC 087 Technical Calculations</td><td>4</td></tr><tr><td>TOTAL UNITS for the Core Requirements</td><td>25</td></tr></table>	Name of the Certificate	Units Required for the Certificate			Specialized Courses	Core Courses**	(1) Machine Technology		25	(2) Machinist Standard	6	25	(3) Tool and Die	14	25	(4) Computer Numerical Control: CAD/CAM	18	25	(5) Mechanical Hydraulics/ Pneumatics	27	N/A	(6) Basic Operation Computerized Numerical Control (CNC)	16	N/A		Units	MACH 120B Machine Shop Theory	2	MACH 021B Machine Shop I	4	MACH 022B Machine Shop II	4	MACH 123A Machine Shop III	4	MACH 124A Machine Shop IV	4	MACH 090B Engineering Blueprint Reading, Geometric Dimensioning and Tolerancing	3	TECALC 087 Technical Calculations	4	TOTAL UNITS for the Core Requirements	25	FA05	TO REFLECT CUIRRICULUM CHANGES
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MODIFY DEGREES (continued)																									
DEGREE		EFF DATE	RATIONALE																						
WATER SUPPLY TECHNOLOGY A.S.	<p>WATER SUPPLY TECHNOLOGY</p> <p>The Water Supply Technology Department offers a curriculum designed to offer pre-service and in-service training in the water supply and reclamation industry. The courses provide technical instructions on dealing with domestic water supply and wastewater treatment and are sequenced to prepare students for the state-licensing exam. The Water Supply Technology Certificate is not equivalent to the State License in Water Supply Technology.</p> <p>WATER SUPPLY TECHNOLOGY ASSOCIATE OF SCIENCE DEGREE</p> <p>To graduate with a specialization in Water Supply Technology, students must complete the following required courses for the certificate plus the general breadth requirements for the Associate Degree (minimum total = 60 units).</p> <p>WATER SUPPLY TECHNOLOGY CERTIFICATE</p> <p>This certificate is designed to prepare students with the necessary knowledge and skills to obtain entry-level employment in the water supply and reclamation industry, including dealing with domestic water supply and wastewater treatment. [Note: the Water Supply Technology Certificate is not equivalent to the State License in Water Supply Technology.] Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.</p> <table><tr><td>REQUIRED COURSES</td><td>UNITS</td></tr><tr><td>Eighteen (18) units from the following Water Supply Technology Courses</td><td>18</td></tr><tr><td>WST 140 Water Utilities Distribution I</td><td>(3)</td></tr><tr><td>WST 141 Water Utilities Distribution II</td><td>(3)</td></tr><tr><td>WST 142x2 Water Quality and Basic Domestic Water Treatment</td><td>(3)</td></tr><tr><td>WST 143 Advanced Domestic Water Treatment</td><td>(3)</td></tr><tr><td>WST 144 Cross Connection Control</td><td>(3)</td></tr><tr><td>WST 145 Backflow Prevention Devices</td><td>(3)</td></tr><tr><td>WST 146 Wastewater Treatment Operations I</td><td>(3)</td></tr><tr><td>WST 147 Wastewater Treatment Operations II</td><td>(3)</td></tr><tr><td>TOTAL UNITS</td><td>18</td></tr></table>	REQUIRED COURSES	UNITS	Eighteen (18) units from the following Water Supply Technology Courses	18	WST 140 Water Utilities Distribution I	(3)	WST 141 Water Utilities Distribution II	(3)	WST 142x2 Water Quality and Basic Domestic Water Treatment	(3)	WST 143 Advanced Domestic Water Treatment	(3)	WST 144 Cross Connection Control	(3)	WST 145 Backflow Prevention Devices	(3)	WST 146 Wastewater Treatment Operations I	(3)	WST 147 Wastewater Treatment Operations II	(3)	TOTAL UNITS	18	FA06	TO REFLECT CURRICULUM CHANGES
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NEW CERTIFICATES			
CERTIFICATE		EFF DATE	RATIONALE
CISCO CERTIFIED NETWORK ASSOCIATE	<p>CISCO CERTIFIED NETWORK ASSOCIATE CERTIFICATE</p> <p>This certificate is designed to prepare students to take the Cisco Certified Network Associate certification examination. This course of study prepares students for entry level employment in the computer networking field. The certificate is part of the Cisco Networking Academy program and all instruction is provided by Cisco Certified Academy Instructors using Cisco certified curriculum. This is the first level of Cisco certification. This course of study is open to all students.</p> <p>REQUIRED COURSES: UNITS</p> <p>CIT 091 Networking Fundamentals, Semester One 3</p> <p>CIT 092 Networking Fundamentals Basic Routing, Semester Two 3</p> <p>CIT 093 Fundamentals Of Lans, Local Area Networks, Semester Three 3</p> <p>CIT 094 Fundamentals Of Wans Wide Area Networks, Semester Four 3</p> <p>TOTAL UNITS 12</p>	FA06	This certificate will provide Valley College student's with recognition for completion of the four course Cisco CCNA sequence (CIT 091, CIT 092, CIT 093, and CIT 094). There is not a certificate currently for this program at Valley College but other local colleges, including Crafton Hills College, have this certificate.
CISCO CERTIFIED NETWORK PROFESSIONAL	<p>CISCO CERTIFIED NETWORK PROFESSIONAL CERTIFICATE</p> <p>This certificate is designed to prepare students to take the Cisco Certified Network Professional certification examinations. The certificate is part of the Cisco Networking Academy program and all instruction is provided by Cisco Certified Academy Instructors using Cisco certified curriculum. This is the second level of Cisco certification. Students must hold a current CCNA certification or have successfully completed CCNA networking at a registered Cisco Network Academy to take any courses in this certificate. Note that the courses can be taken in any order.</p> <p>REQUIRED COURSES: UNITS</p> <p>CIT 095 Advanced Routers, Semester Five 3</p> <p>CIT 096 Remote Access, Semester Six 3</p> <p>CIT 097 Lan Switching, Semester Seven 3</p> <p>CIT 098 Network Troubleshooting, Semester Eight 3</p> <p>TOTAL UNITS 12</p>	FA06	This certificate will provide Valley College student's with recognition for completion of the four course Cisco CCNP sequence (CIT 095, CIT 096, CIT 097, and CIT 098). There is not a certificate currently for this program at Valley College but other local colleges, including Crafton Hills College, have this certificate.

Curriculum Meetings: 03-28-05; 04-11-05; 05-02-05; 05-09-05
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MACHINIST TECHNOLOGY	<p>MACHINIST TECHNOLOGY CERTIFICATES</p> <p>Students working for certificates must have a basic knowledge of arithmetic, reading, and writing in order to learn and work in the occupations they select.</p> <p>The following is a list of six Machinist Technology Certificates and the number of credits required for each certificate:</p> <table><thead><tr><th>Name of the Certificate</th><th colspan="2">Units Required for the Certificate</th></tr><tr><th></th><th>Specialized Courses</th><th>Core Courses**</th></tr></thead><tbody><tr><td>(1) Machine Technology</td><td></td><td>25</td></tr><tr><td>(2) Machinist Standard</td><td>6</td><td>25</td></tr><tr><td>(3) Tool and Die</td><td>14</td><td>25</td></tr><tr><td>(4) Computer Numerical Control: CAD/CAM</td><td>18</td><td>25</td></tr><tr><td>(5) Mechanical Hydraulics/ Pneumatics</td><td>27</td><td>N/A</td></tr><tr><td>(6) Basic Operation Computerized Numerical Control (CNC)</td><td>16</td><td>N/A</td></tr></tbody></table> <p>Note:</p> <ul style="list-style-type: none">• Basic Operation Computerized Numerical Control (CNC) certificate is not applicable towards Associate of Science in Machinist Technology degree.• Students are required to take specialized courses and additional core courses in order to receive the following certificates: Machinist Standard Certificate; Tool and Die Certificate; and Computer Numerical Certificate <p>**Core Courses:</p> <table><thead><tr><th></th><th>Units</th></tr></thead><tbody><tr><td>MACH 120B Machine Shop Theory</td><td>2</td></tr><tr><td>MACH 021B Machine Shop I</td><td>4</td></tr><tr><td>MACH 022B Machine Shop II</td><td>4</td></tr><tr><td>MACH 123A Machine Shop III</td><td>4</td></tr><tr><td>MACH 124A Machine Shop IV</td><td>4</td></tr><tr><td>MACH 090B Engineering Blueprint Reading, Geometric Dimensioning and Tolerancing</td><td>3</td></tr><tr><td>TECALC 087 Technical Calculations</td><td>4</td></tr><tr><td>TOTAL UNITS for the Core Requirements</td><td>25</td></tr></tbody></table> <p>1. Machine Technology</p> <p>This certificate is designed to prepare students for entry-level employment in manufacturing using machine tools such as lathes, milling machines, and spindles to produce precision metal parts. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.</p> <table><thead><tr><th>Required Courses:</th><th>Units</th></tr></thead><tbody><tr><td>Machine Technology Core Requirements</td><td>25</td></tr><tr><td>Total Units required for the Machine Technology Certificate</td><td>25</td></tr></tbody></table> <p>2. Machinist Standard</p> <p>This certificate is designed to prepare students for entry-level employment in manufacturing producing precision metal parts using machine tools such as lathes, milling machines, and spindles, or in the maintenance and manufacture of new parts for existing machinery. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.</p> <table><thead><tr><th>Required Courses:</th><th>Units</th></tr></thead><tbody><tr><td>Machine Technology Core Requirements</td><td>25</td></tr><tr><td>MACH 070B Computer Numerical Control Machining I</td><td>3</td></tr><tr><td>MACH 129B Manufacturing Processes</td><td>3</td></tr><tr><td>Total Units required for the Machinist Standard Certificate</td><td>31</td></tr></tbody></table>	Name of the Certificate	Units Required for the Certificate			Specialized Courses	Core Courses**	(1) Machine Technology		25	(2) Machinist Standard	6	25	(3) Tool and Die	14	25	(4) Computer Numerical Control: CAD/CAM	18	25	(5) Mechanical Hydraulics/ Pneumatics	27	N/A	(6) Basic Operation Computerized Numerical Control (CNC)	16	N/A		Units	MACH 120B Machine Shop Theory	2	MACH 021B Machine Shop I	4	MACH 022B Machine Shop II	4	MACH 123A Machine Shop III	4	MACH 124A Machine Shop IV	4	MACH 090B Engineering Blueprint Reading, Geometric Dimensioning and Tolerancing	3	TECALC 087 Technical Calculations	4	TOTAL UNITS for the Core Requirements	25	Required Courses:	Units	Machine Technology Core Requirements	25	Total Units required for the Machine Technology Certificate	25	Required Courses:	Units	Machine Technology Core Requirements	25	MACH 070B Computer Numerical Control Machining I	3	MACH 129B Manufacturing Processes	3	Total Units required for the Machinist Standard Certificate	31	FA05	TO REFLECT CURRICULUM CHANGES
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MODIFY CERTIFICATES (continued)				
CERTIFICATE		EFF DATE	RATIONALE	
MACHINIST TECHNOLOGY	MACHINIST TECHNOLOGY CERTIFICATES (continued)		FA05	TO REFLECT CURRICULUM CHANGES
	3. Tool and Die			
	This certificate is designed to prepare students for entry-level employment producing tools, dies, and special guiding and holding devices that enable machines to manufacture a variety of products we use daily - from clothing and furniture to heavy equipment and parts for aircraft. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.			
	Required Courses: Units			
	Machine Technology Core Requirements 25			
	MACH 160B Tool and Die 4			
	MACH 061B Jig and Fixture Making 4			
	MACH 062x2 Introduction to Mold Making 3			
	MACH 129B Manufacturing Processes 3			
	Total Units required for the Tool and Die Certificate 39			
	4. Computer Numerical Control: CAD/CAM			
	This certificate is designed to prepare students for entry-level employment as production machinists working with complex computer numerically controlled (CNC) cutting machines. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.			
	Required Courses: Units			
	Machine Technology Core Requirements 25			
	MACH 070B Computer Numerical Control Machining I 3			
MACH 071B Computer Numerical Control Machining II 3				
MACH 072B Computer Aided Design/Computer Aided Manufacturing I 3				
MACH 073B Computer Aided Design/Computer Aided Manufacturing II 3				
MACH 074B Set-up and Operation of Various Machine Controls 3				
MACH 129B Manufacturing Processes 3				
Total Units required for the Computer Numerical Control: CAD/CAM Certificate 43				
5. Mechanical Hydraulics/Pneumatics				
This certificate is designed to prepare students for entry-level employment for entry-level work in industrial mechanical hydraulics maintenance with training on state-of-the-art pneumatic systems, basic components, pumps and hydraulic simulation equipment. This certificate enables the holder to perform many plant maintenance requirements. Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.				
Required Courses: Units				
MACH 021B Machine Shop I 4				
MACH 090B Engineering Blueprint Reading, Geometric Dimensioning and Tolerancing 3				
MACH 091A Rigging Systems and Techniques 3				
MACH 092A Fluid Power Systems I 2				
MACH 093A Fluid Power Systems II 2				
MACH 094A Fluid Pump Systems 2				
MACH 095A Piping Systems 1				
MACH 096A Central Lubrication 1				
MACH 097A Mechanical Systems 2				
TECALC 087 Technical Calculations 4				
WELD 145 Shielded Metal Arc Welding 3				
TOTAL UNITS 27				
6. Basic Operation Computerized Numerical Control (CNC)				
This certificate is designed to provide entry-level skills to operate a CNC lathe or milling type machine tool.				
Required Courses: Units				
MACH 021B Machine Shop I 4				
MACH 070B Computer Numerical Control Machining I 3				
MACH 074B Set-up and Operation of Various Machine Controls 3				
MACH 075X2 Introduction to Computer Aided Drafting Technologies 3				
MACH 090B Engineering Blueprint Reading, Geometric Dimensioning and Tolerancing 3				
Total Units 16				

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MODIFY CERTIFICATES (continued)			
CERTIFICATE		EFF DATE	RATIONALE
WATER SUPPLY TECHNOLOGY	WATER SUPPLY TECHNOLOGY CERTIFICATE		FA06 TO REFLECT CURRISULUM CHANGES
	This certificate is designed to prepare students with the necessary knowledge and skills to obtain entry-level employment in the water supply and reclamation industry, including dealing with domestic water supply and wastewater treatment. [Note: the Water Supply Technology Certificate is not equivalent to the State License in Water Supply Technology.] Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.		
	REQUIRED COURSES	UNITS	
	Eighteen (18) units from the following Water Supply Technology Courses		
	WST 140	Water Utilities Distribution I	
	WST 141	Water Utilities Distribution II	
	WST 142x2	Water Quality and Basic Domestic Water Treatment	
	WST 143	Advanced Domestic Water Treatment	
	WST 144	Cross Connection Control	
	WST 145	Backflow Prevention Devices	
	WST 146	Wastewater Treatment Operations I	
	WST 147	Wastewater Treatment Operations II	
TOTAL UNITS	18		

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