

LOS ANGELES TRADE-TECH

LATTC

A Community College

**SPRING 2019
ADDENDUM**

SECTION IV: GRADUATION REQUIREMENTS, PATHWAYS AND PROGRAMS OF STUDY

**Advanced
Transportation
and
Manufacturing
Pathway
(ATM)**

**Business
and Civic
Engagement
Pathway
(BCE)**

**Cosmetology
Pathway
(COS)**

**Design and
Media Arts
Pathway
(DMA)**

ONE COLLEGE, NINE PATHWAYS, OVER 100 PROGRAMS OF STUDY

**Applied
Sciences
Pathway
(AS)**

**Construction,
Maintenance
& Utilities
Pathway
(CMU)**

**Culinary
Arts
Pathway
(CA)**

**Health and
Related
Sciences
Pathway
(HRS)**

**Liberal
Arts and
Transfer
Prep
Pathway
(LA)**

2018-2020

Catalog



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2018-2020 Catalog
Spring 2019 Addendum

PROGRAM UPDATES

New Programs

Program	Award Type
Noncredit:	
Custodial Technician Training	Certificate of Completion
Lube Technician	Certificate of Completion
Sustainable Small Business Development	Certificate of Completion

Program Modifications

Program (Award Type)	Summary of Changes
Carpentry (AS, C)	Program Overview, Courses
Carpentry - Construction Technologies (AS, C)	Award Type (AA to AS), Program Overview, Courses
Plumbing Construction Tech (AS, C)	Award Type (AA to AS), Program Overview, Courses

NONCREDIT—CONTINUING EDUCATION

Note: These programs are not Financial Aid Eligible

CUSTODIAL TECHNICIAN TRAINING

■ Certificate of Completion

Award Title	Academic Plan
Custodial Technician Training	T036965E

PROGRAM OVERVIEW

The Custodial Technician Training program provides students with the professionalism, knowledge and skills required for Custodial Services positions. The program is designed for front line custodians and teaches basic skills in cleaning and maintenance of floors and other surface areas. The program introduces students to employability skills and technical report writing mechanics.

PROGRAM LEARNING OUTCOMES

- Perform basic procedures for cleaning and polishing a variety of surfaces.
- Generate basic cleaning reports of technical nature.

REQUIRED COURSES

	UNITS
BSICSKL 019CE Technical English Writing	0
VOC ED 060CE Custodial Technician Training	0

LUBE TECHNICIAN

■ Certificate of Completion

Award Title	Academic Plan
Lube Technician	T036814E

PROGRAM OVERVIEW

This entry level program provides a generalized understanding of preventative automotive maintenance focusing on oil and fluid maintenance.

This program is designed to meet the Automotive industry's growing need for entry-level service support positions. This is the foundational certificate designed for entry-level job attainment or transition to the credit Automotive program.

PROGRAM LEARNING OUTCOMES

- Demonstrate accuracy, proficiency and quality in oil change task performance.

REQUIRED COURSES

	UNITS
BSICSKL 078CE Fundamentals of Workplace Success II-Effective Communication and Leadership	0
VOC ED 325CE Introduction to Automotive Maintenance and Service	0
VOC ED 326CE Automotive Diagnostics & Repair	0

SUSTAINABLE SMALL BUSINESS DEVELOPMENT

■ Certificate of Completion

Award Title	Academic Plan
Sustainable Small Business Development	T037088E

PROGRAM OVERVIEW

Sustainable businesses are enterprises that strive to meet the triple bottom line, which is a social, environmental and financial framework to evaluate business performance and success over time. This certificate provides a pathway to career and college degree coursework in Business and/or Entrepreneurship.

Throughout the 6 courses the students explore the feasibility of aspects of an idea...leading to an understanding of whether or not a the full complex idea is viable and sustainable.

PROGRAM LEARNING OUTCOMES

- Assess the viability of a socially responsible, entrepreneurial idea, product or service.

REQUIRED COURSES

	UNITS
VOC ED 190CE Pathway to Socially Responsible Entrepreneurship	0
VOC ED 191CE Starting Your Own Small Business	0
VOC ED 192CE Managing Small Business Operations	0
VOC ED 193CE Marketing and Sales for Small Business	0
VOC ED 194CE Technology for Small Business	0
VOC ED 195CE Entrepreneurial Finance	0

Construction, Maintenance & Utilities
Office: Sequoia Hall/B - Room 122
Email: cdm@lattc.edu
Phone: (213) 763-3700

CARPENTRY/BUILDING AND CONSTRUCTION TECHNOLOGIES

Award Title	Academic Plan	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Carpentry*	T002909C	AS	21	45	3	48
Carpentry	T021848D	C		45	3	48
Carpentry - Construction Technologies*	T008479C	AS	21	40	8	48
Carpentry - Construction Technologies	T021849D	C		40	8	48

At least 60 degree applicable units are required to earn an Associate degree.
 *This Associate Degree is eligible for a reduction of General Education requirements from 21 to 18 units; please consult with a counselor for more details. [These programs are Financial Aid Eligible.](#)

PROGRAM OVERVIEW

The Carpentry Degree and Certificate is designed to prepare students for employment in the Construction industry.

Career opportunities for students completing this program of study include, but are not limited to:

- Carpenters
- Helpers—Carpenters
- Cement Masons

By fulfilling the program requirements, students will have the necessary knowledge and skills for a career as a Carpenter in the Construction or Maintenance arena. The construction, installation, and repair of structures and fixtures made from wood and other materials, working from blueprints, layout, measuring, marking, and arranging materials in accordance with local building codes, cutting and shaping wood, plastic, fiberglass, or drywall using hand and power tools, joining materials with nails, screws, staples, or adhesives are some of the skills that will be mastered during this program.

CARPENTRY

Associate in Science Degree

Major Units: 48

Requirements for the Associate in Science degree in

Carpentry may be met by completing 45 units of Required Courses and 3 units of Major Electives with a “C” or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation Requirements.

REQUIRED COURSES

SEMESTER I		UNITS
CRPNTRY 105	Calculations and Measurement for Woodworking Students I	3
CRPNTRY 114	Hand and Power Tool Application	4
CRPNTRY 115	Basic Blueprint Reading and Core Construction Skills	3
CRPNTRY 117	Construction Materials	2
SEMESTER II		UNITS
CRPNTRY 123	Basic House Construction	6
CRPNTRY 124	Blueprint Reading and Estimating I	3
CRPNTRY 130	Calculations and Measurements for Woodworking Students II	3
SEMESTER III		UNITS
CRPNTRY 132	Applied Blueprint Reading	3
CRPNTRY 133	Advanced Residential Estimating	3
CRPNTRY 134	Advanced Residential Construction	4
CRPNTRY 135	Concrete Construction	2

SEMESTER IV		UNITS
CRPNTRY 144	Residential Exterior Finish	4
CRPNTRY 145	Residential Interior Finish	5
	<i>Elective</i>	3

MAJOR ELECTIVES

Select 3 units from the courses below		UNITS
BLDGCTQ 002	Pre-Employment-Applied Trades Calculations and Measurements	3
BLDGCTQ 007	Weatherization-Practical Energy Efficiency Techniques	3
BLDGCTQ 008	Weatherization-Energy Efficiency Practices	1
BLDGCTQ 009	Energy Auditor-Residential	3
BLDGCTQ 012	Energy Auditor-Residential Practices	1
BLDGCTQ 014	Carpentry and Construction for Renewable Energy Installers	4
BLDGCTQ 102	O.S.H.A Based Safety Standards: Construction & Industry	2
BLDGCTQ 921	Cooperative Education-Building Construction Techniques	2
BLDGCTQ 931	Cooperative Education- Building	3
BLDGCTQ 941	Cooperative Education- Building Construction Techniques	4
CRPNTRY 111	Construction I	7
CRPNTRY 126	Construction II	6
CRPNTRY 148	Computer Assisted Estimating I	3
CRPNTRY 149	Computer Assisted Estimating II	3
CRPNTRY 170	Introduction to CNC Woodworking Machining and Programming	3
CRPNTRY 243	Building Estimating I	3
CRPNTRY 247	Building Estimating II	3
CRPNTRY 941	Cooperative Education-Carpentry	4
ECONMT 100	(O.S.H.A.) Safety Standards: Construction & Industry Construction Techniques	2

CARPENTRY

■ Certificate of Achievement

Major Units: 48

A Certificate of Achievement in Carpentry may be earned by completing 45 units of Required Courses and 3 units of Major Electives listed under the Associate degree in Carpentry with a “C” or better in each course.

CARPENTRY- CONSTRUCTION TECHNOLOGIES

■ Associate in Science Degree

Major Units: 48

Requirements for the Associate in Science degree in Carpentry—Construction Technologies may be met by completing 40 units of Required Courses and 8 units of Major Electives with a “C” or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation Requirements.

REQUIRED COURSES

SEMESTER I

CRPNTRY 105	Calculations and Measurement for Woodworking Students I	3
CRPNTRY 111A	Construction IA	3
CRPNTRY 111B	Construction IB	2
CRPNTRY 111C	Construction IC	2
	<i>Elective</i>	2

SEMESTER II

CRPNTRY 130	Calculations and Measurements for Woodworking Students II	3
CRPNTRY 148	Computer Assisted Estimating I	3
CRPNTRY 241	Blueprint Reading and Estimating	3
CRPNTRY 243	Building Estimating I	3

SEMESTER III

ECONMT 100	(O.S.H.A.) Safety Standards: Construction & Industry	2
CRPNTRY 149	Computer Assisted Estimating II	3
CRPNTRY 240	Building Construction Specialties	4
CRPNTRY 251	Building Codes I: International Residential Code (IRC)	3

SEMESTER IV

CRPNTRY 247	Building Estimating II	3
CRPNTRY 252	Building Codes II: International Residential Code (IRC)	3
	<i>Elective</i>	6

MAJOR ELECTIVES

Select 8 units from the courses below		UNITS
BLDGCTQ 002	Pre-Employment-Applied Trades Calculations and Measurements Construction & Industry	3
BLDGCTQ 007	Weatherization-Practical Energy Efficiency Techniques	3

BLDGCTQ 008	Weatherization-Energy Efficiency Practices	1
BLDGCTQ 009	Energy Auditor-Residential	3
BLDGCTQ 012	Energy Auditor-Residential Practice	1
BLDGCTQ 014	Carpentry and Construction for Renewable Energy Installers	4
BLDGCTQ 102	O.S.H.A Based Safety Standards: Construction & Industry	2
BLDGCTQ 921	Cooperative Education-Building Construction Techniques	2
BLDGCTQ 931	Cooperative Education- Building Construction Techniques	3
BLDGCTQ 941	Cooperative Education- Building Construction Techniques	4
CRPNTRY 114	Hand and Power Tool Application	4
CRPNTRY 115	Basic Blueprint Reading and Core Construction Skills	3

CRPNTRY 117	Construction Materials	2
CRPNTRY 126	Construction II	6
CRPNTRY 170	Intro to CNC Woodworking Machining and Programming	3
CRPNTRY 941	Cooperative Education-Carpentry	4

CARPENTRY- CONSTRUCTION TECHNOLOGIES

■ Certificate of Achievement
Major Units: 48

A Certificate of Achievement in Carpentry—Construction Technologies may be earned by completing 40 units of Required Courses and 8 units of Major Electives listed under the Associate degree in Carpentry—Construction Technologies with a “C” or better in each course.

PLUMBING

Award Title	Academic Plan	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Plumbing: Construction Tech*	T008484C	AS	21	37	8	45
Plumbing: Construction Tech	T021856D	C		37	8	45

At least 60 degree applicable units are required to earn an Associate degree.
*This Associate Degree is eligible for a reduction of General Education requirements from 21 to 18 units; please consult with a counselor for more details. [These programs are Financial Aid Eligible.](#)

PROGRAM OVERVIEW

The Plumbing: Construction Tech Degree & Certificate are designed to prepare students for employment in the plumbing and related pipe industry. Career opportunities for students completing this program of study include, but are not limited to:

- First-Line Sup/Mgrs of Construction Trades and Extraction Workers
- Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters
- Pipelayers
- Plumbers, Pipefitters, and Steamfitters
- Septic Tank Servicers and Sewer Pipe Cleaners

By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair or construction plumbing. Reading of blueprints,

layout, estimating, installation of piping systems and fixtures, repair of supply and waste water systems are just some of the skills that will be mastered during this program.

The coursework in this program meets the requirements for entry into the plumbing trade.

PLUMBING: CONSTRUCTION TECH

■ Associate in Science Degree
Major Units: 45

Requirements for the Associate in Science degree in Plumbing: Construction Tech may be met by completing 37 units of Required Courses and 8 units of Major Electives with a “C” or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation Requirements.

REQUIRED COURSES

SEMESTER I UNITS

PLUMBNG 028	Plumbing Code I	3
PLUMBNG 112	Fundamentals of Plumbing	3
WELDG/E 201A	Welding-Gas and Electric IA	1
<i>Elective</i>		5

SEMESTER II UNITS

PLUMBNG 026	Plumbing Layout and Estimating I	3
PLUMBNG 029	Plumbing Code II	3
BLDGCTQ 101	Contract's License Law	3
<i>Elective</i>		3

SEMESTER III UNITS

OPMAINT 228	Steam Plant Operation I	6
PLUMBNG 027	Plumbing Layout and Estimating II	3
BLDGCTQ 102	O.S.H.A. Based Safety Standards: Construction & Industry	2

SEMESTER IV UNITS

PLUMBNG 031	Backflow Prevention Devices	3
PLUMBNG 033	Plumbing Code III	3
PLUMBNG 246	Principles and Practices of Plumbing Design	4

MAJOR ELECTIVES

Select 8 units from the courses below UNITS

ECONMT 181	Basic Wiring Practices	3
LABR ST 115	Workplace Health and Safety	1
MARKET 021	Principles of Marketing	3
OPMAINT 229	Steam Plant Operation II	6
PLUMBNG 033	Plumbing Code III	3
PLUMBNG 941	Cooperative Education Plumbing	4

Note: up to 8 Units of PLUMBNG 941 may be applied towards the Plumbing: Construction Tech Degree

PLUMBING: CONSTRUCTION TECH

■ Certificate of Achievement

Major Units: 45

A Certificate of Achievement in Plumbing: Construction Tech may be earned by completing 37 units of Required Courses and 8 units of Major Electives listed under the Associate degree in Plumbing: Construction Tech with a "C" or better in each course.

NEW COURSES

CHILD DEVELOPMENT

CH DEV 055 HOME VISITATION PROGRAMS (3) CSU

Lecture: 3 hours

Prerequisite: Child Development 044

Examines the emerging field of home visitation as it relates to programs offering in home support and intervention services. Prepares the student to conduct home visitations in a variety of contexts including early intervention, family support systems, gerontology and publicly funded early childhood programs.

Student Learning Outcome(s):

1. Analyze the role of the home visitor within the diverse scope of programs offering this service to children, families and the elderly.

FASHION DESIGN

FASHDSN 208 SHOE AND ACCESSORIES DESIGN AND CONSTRUCTION LEVEL II (3)

Lab: 6 hours

Prerequisite: Fashion Design 207

In this intermediate course on working with leather, students will build upon the skills developed in Shoe and Accessories Design and Construction Level I.

1. Students will design and construct a leather handbag with rope handles and an interior welt zippered pocket, and a pair of lace up boots. Students will further their leather sewing skills and will construct using both hand and machine sewing methods.

Student Learning Outcome(s):

1. Students will draft and construct a structured leather purse. 2. Students will draft and construct leather lace up boots.

FASHDSN 209 HISTORICAL COSTUME RESEARCH (3)

Lecture: 3 hours

Prerequisite: English 101

This class will instruct students on how to identify key silhouettes across eras through learning how to research using archives, library resources, and on-line databases. Students will gain an appreciation for the relationship between fashion, politics, culture and technology. Will also gain an understanding of period costume on stage and in film.

Student Learning Outcome(s):

1. Student will be able to research and provide an evaluation of costume influences on a movie production.

FASHDSN 210 ACCESSORIES FOR COSTUMES (3)

Lab: 6 hours

Advisories: Fashion Design 111 or Fashion Design 223 and 224

Students will understand historical silhouettes and how they are achieved. Instruction will include collar treatments, undergarments and modern knit foundations. Students will learn to pad the dress form to create a body double to measurements.

Student Learning Outcome(s):

1. Student will create a variety of costume undergarment accessories.

FASHDSN 211 CORSET CONSTRUCTION FOR COSTUME (3)

Lab: 6 hours

Prerequisite: Fashion Design 118 and Fashion Design 132 or Fashion Design 226 or 227

Students will learn the different styles of corsets across the eras and their corresponding silhouettes. Instruction will include how to drape, pattern and stitch period corsets for film and stage.

Student Learning Outcome(s):

1. Student will be able to design and create a period corset.

FASHDSN 212 COSTUME ILLUSTRATION (3) CSU

Lab: 6 hours

Prerequisite: Fashion Design 244

Student will learn to design costumes for a range of body types and characters with period appropriate details. Students will develop the ability to convey their design ideas to technicians. Instruction will be provided in hand and computer techniques.

Student Learning Outcome(s):

1. Students will be able to design a range of costumes.

FASHDSN 213 WOMEN'S PERIOD COSTUMES (3)

Lab: 6 hours

Prerequisite: Fashion Design 130 or 240 and 241; and Fashion Design 132 or 226 and 227

Students will learn to drape period costumes over appropriate underpinnings and learn to make patterns to prepare for construction of costumes. Instruction will include how to make pattern based on the needs of a stage or film production. Measurements and fitting will be emphasized in the creation of projects. Projects will include direction from costumer designers.

Student Learning Outcome(s):

1. Student will use draping and pattern making techniques to create period costumes, fitted on a selected model.

FASHDSN 214 MEN'S COSTUME DESIGN (3)

Lab: 6 hours

Prerequisite: Fashion Design 130 or 240 and 241; and Fashion Design 132 or 226 and 227

Students will learn draping and pattern making techniques to create period costumes for men and prepare for construction of costumes. Instruction will include how to make patterns based on the needs of a stage or film production. Measurements and fitting will be emphasized in the creation of projects. Projects will include direction from costumer designers.

Student Learning Outcome(s):

1. Student will be able to research and provide an evaluation of costume influences on a movie production.

FASHDSN 215 COUTURE SEWING (3)

Lab: 6 hours

Prerequisite: Fashion Design 118 or Fashion Design 223 or 224

This course offers sewing techniques used in industry and couture houses for better quality garments, and for costume construction. Special fabrications and material manipulation will be included in class projects.

Student Learning Outcome(s):

1. Students will construct a garment using couture sewing techniques.

FASHDSN 216 COSTUME CRAFTS (3)

Lab: 6 hours

Students will learn craft skills necessary for film and stage productions. Instruction will be given on painting, dyeing and distressing fabrics and garments, as well as jewelry and glove making.

Student Learning Outcome(s):

1. Student will 'age' garments using proper distressing techniques.

HEALTH

HEALTH 101 INTRODUCTION TO PUBLIC HEALTH (3) CSU

Lecture: 3 hours

This course provides an introduction to the discipline of Public Health. Students will gain an understanding of the basic concepts and terminologies of public health, and the history and accomplishments of public health officials and agencies. An overview of the functions of various public health professions and institutions, and an in-depth examination of the core public health disciplines is covered. Topics of the discipline include the epidemiology of infectious and chronic disease; prevention and control of diseases in the community including the analysis of the social determinants of health and strategies for eliminating disease, illness and health disparities among various populations; community organizing and health promotion programming; environmental health and safety; global health; and health care policy and management.

Student Learning Outcome(s):

1. Identify and analyze health promotion strategies and programming for prevention, detection, and control of infectious and chronic disease. 2. Analyze current public health issues and describe how they affect societal well-being among specific populations of age, sex, ethnicity, education, and socioeconomic status. 3. Identify, assess, and utilize credible information resources on community health current issues, such as the Internet, social media, television, newspapers, and libraries.

HEALTH 105 BREAST CANCER SCREENING, TESTS, PREVENTION, AND TREATMENT OPTIONS (3)

Lecture: 3 hours

This course will cover the traditional and emerging options for breast cancer screening, tests, prevention and treatment. The course will include a look at the new iBreast Exam and NoTouch BreastScan screening technology. Public health issues will be discussed on safety, education, efficacy, and universal access to breast cancer screening, prevention, and treatment.

Student Learning Outcome(s):

1. Describe the current breast cancer screening recommendations and controversies. 2. Identify high risk groups and lifestyle habits which need to be considered when following current breast cancer screening and follow-up guidelines. 3. Analyze and evaluate the new breast cancer screening, diagnostic, and treatment currently being used.

HISTORY

HISTORY 002 INTRODUCTION TO WESTERN CIVILIZATION II (3) CSU

Lecture: 3 hours

Advisory: English 028

This course surveys Western Civilization from the Protestant Reformation to the present. Major topics include the political, economic, and social organization of Europe with emphasis upon the rise of the nation state and industrialization. European imperialism in the nineteenth and twentieth centuries is also examined.

Student Learning Outcome(s):

1. Student will demonstrate ability to interpret historical primary and secondary sources to compose an argument using the sources as support. 2. Student will explain major economic, technological, and/or scientific developments and their historical significance. 3. Student will analyze and explain the historical significance of major political trends, attitudes, conflicts and effects, including both mainstream and reform efforts.

KINESIOLOGY

KIN 047 ADAPTED SWIMMING AND HYDROEXERCISE (1) CSU

Lab: 3 hours

This course meets the needs of students with disabilities requiring restricted or modified activities. Individualized exercise programs focus on basic swimming and water safety skills. Hydroexercise programs emphasize physical fitness, buoyancy, and hydrodynamic resistance principles.

Student Learning Outcome(s):

1. Students will identify how variances in surface area, speed of movement, turbulence, and buoyancy effects resistance, propulsion, and exercise intensity when moving in the water. 2. Students will identify effective swimming skills related to the kick, arm motion, and breathing. 3. Students will differentiate what factors affect one's buoyancy when swimming in the water.

KIN 180 MARATHON TRAINING COURSE FOR RUN/WALK (1.5) CSU

Lab: 3 hours

This course develops cardiovascular endurance for a student training for a marathon using a variety of tempo runs. Students utilize and understand aerobic and anaerobic energy systems and when each is used. Race analysis and race psychology are also explained.

Student Learning Outcome(s):

1. Compare and contrast anaerobic and aerobic development in long distance running/walking by analyzing self performances, timed trials, and heart rate.

KIN 317-1 SELF DEFENSE I (1) CSU

Lab: 3 hours

This course instructs the student in self-defense and personal safety skills for men and women against deadly dangerous and other physical attacks at an introductory level. The course includes discussion of safety precautions and the promotion of mental and physical well-being. Introductory skills include palm-heel strike to floating rib and face targets, knee strike, scrape-stomp strike to shin and feet, street 'ready' stance, and dojo (class training) 'ready' position.

Student Learning Outcome(s):

1. The student will be able to defend and protect one's self against an assailant. 2. The student will be able to demonstrate how to make a safe transition to the ground when knocked down.

LIBRARY SCIENCE

LIB SCI 100 CRITICAL APPROACHES TO RESEARCH IN COLLEGE AND BEYOND (3) CSU

Lecture: 3 hours

LIB SCI 100 demystifies the fundamentals of research for college and beyond, teaching students strong critical thinking skills to navigate and effectively participate in today's complex information environments. Through in-depth class discussions and hands-on activities, students come to know research requiring a broad, multidisciplinary understanding of how information is created and shared; how authority is constructed and perceived; and the economic, legal, social, and cultural implications of information use. This context provides a crucial foundation for academic study and lifelong learning in the information age.

Student Learning Outcome(s):

1. Apply research techniques and strategies to develop a research question. 2. Critically assess a source for its value, context, degree of credibility, authority, and purpose to determine its value as evidence to support a claim.

MATHEMATICS

MATH 125S INTERMEDIATE ALGEBRA WITH SUPPORT (5)

Lecture: 4 hours/Lab: 2 hours

Advisory: MATH 115

This course includes a mandatory lab component to review topics from prealgebra and elementary algebra. This course strengthens and further develops manipulative skills in elementary algebra. Topics include the fundamental operations on algebraic expressions, solutions of equations and inequalities, exponentiation, graphs of algebraic, exponential and logarithmic functions, systems of equations and inequalities, and an introduction to the conic sections. Applications are included in a wide variety of word problems.

Student Learning Outcome(s):

1. The student will be able to define and manipulate nonlinear and linear functions and relations. 2. The student will be able to solve a variety of nonlinear equations, e.g. logarithmic, inverse, quadratic equations, absolute value, rational. 3. The student will be able to create, analyze, and interpret graphs of linear and nonlinear relations. 4. The student will be able to apply algebraic skills to a variety of applications such as growth and decay, logic, reasoning, geometry, optimization, quadratic applications (motion, mixture, work).

MATH 137 PRE-STATISTICS ALGEBRA (5)

Lecture: 5 hours

Advisory: MATH 110 or 112

This course reviews topics from algebra pertain to exploratory data analysis, probability and statistics. Topics include: solving algebraic equations, simplifying algebraic expressions, functions their domain, range, and graphs, data analysis, sample statistics and graphs, graphical and tabular displays, measures of central tendency and spread, probability, sequences and series, and exponential and logarithmic functions. This class intended as preparation for non-STEM students who wish to take Statistics.

Student Learning Outcome(s):

1. Construct and interpret graphical and tabular displays of data and compute and interpret the summary of data numerically. 2. Graph and interpret linear

and exponential models for a given data set. 3. Evaluate formulas or expressions and functions and solve exponential or logarithmic equations.

MATH 241 TRIGONOMETRY WITH VECTORS (4) CSU

Lecture: 4 hours

Prerequisite: MATH 125

This course includes the study of angles and their measurement in degrees and radians; triangles; trigonometric functions and their inverses and their graphs, identities, and proofs related to trigonometric expressions, trigonometric equations, solving right triangles, solving triangles using the Law of Cosines and the Law of Sines, vectors; complex numbers; graphing trigonometric functions as polar curves.

Student Learning Outcome(s):

1. Develop reciprocal, quotient and Pythagorean identities from the definitions of the trigonometric functions. 2. Solve application problems that are right-triangle based such as the Law of Sines and Law of Cosines to solve vector applications. 3. Graph the trigonometric functions; define and graph the inverse circular functions. 4. Solve such application problems as length of an arc, area of a sector, velocity and angular speed.

MATH 272 METHODS OF DISCRETE MATHEMATICS(5)CSU

Lecture: 5 hours

Prerequisite: MATH 266

This course consists a study of sets, relations, mathematical logic, algorithms, number systems, mathematical induction, counting principles, probability,

Boolean algebra, the logic network, Pigeonhole principle, cardinality, and computability, recurrence relations, and recursion, graph theory, switching circuits, trees.

Student Learning Outcome(s):

1. The student will apply the Modular Arithmetic to RSA Cryptography. 2. The student will write a closed form formula for a given recurrence relation using the characteristic equation.

PARALEGAL

PALEGAL 045 LITIGATION DOCUMENT PREPARATION (3)

Lecture: 3 hours

Advisory: English 028

This course introduces the student to common litigation documents, terminology, procedures, and document preparation. Topics covered include the development and production of initial client documents, fee agreements, interrogatories, subpoenas, other discovery, deposition summaries, briefs, motions and pleadings. Students will receive hands-on instruction to create these legal documents using word processing software and focus on deadlines and calendaring requirements.

Student Learning Outcome(s):

1. Using technological as well as non-technological resources student will be able to create various legal documents that integrate into the substance of a case towards its juridical resolution. 2. Student will be able to provide an analysis of their research in various summary forms.

REINSTATED COURSES

DRAFTING

DRAFT 064 CADD LABORATORY (3) CSU

Lecture: 2.5 hours/Lab: 2.5 hours

This course provides assistance for the student to resolve architectural or building systems projects in an environment that uses computer aided design / drafting and Internet Work Spaces technology. Students will be able to complete assignments from other courses and expand his / her technology detail knowledge. Students will work individually or in teams and will work with the assistance of an Instructor.

Student Learning Outcome(s):

Design a portfolio demonstrating skills required in industry.

ELECTRICAL LINEMAN APPRENTICE

ELECLNM 175 UTILITY POLE CLIMBING CERTIFICATION - (175 HOURS) (4)

Lab: 10 hours

This is a practical laboratory class of 175 hour to provide training and practice for individuals that have completed the electrical line worker (600) hour course or have sufficient work experience but have not yet met the pole climbing competencies to receive a climbing certification. Special Note: Students during the course of instruction will be required to lift up to 60 lbs. with repetition and will be required to climb and perform installation and maintenance operations at the top of 30 foot power poles. Physical or psychological impairments that might limit your abilities to succeed should be considered.

Student Learning Outcome(s):

Students will be able to climb and perform installation and maintenance operations at the top of power poles with proper technique in accordance with industry regulations and safety standards.

FASHION DESIGN

FASHDSN 207 SHOE AND ACCESSORIES DESIGN AND CONSTRUCTION LEVEL I (3) CSU

Lab: 6 hours

In this introductory course, students will learn the fundamentals of sewing with leather as it relates to personal accessories and shoe design and construction. Students will fabricate a belt, a simple wallet, a handbag, a pair of sandals, a pair of heels, and a pair of lace-up shoes. Students will learn how to prepare leather for construction, and will be exposed to sewing both by hand and by machine. No prior sewing experience required.

Student Learning Outcome(s):

1. Students will be able to draft and construct a variety of leather shoes and accessories to industry standards.

HEALTH

HEALTH 051 DRUGS AND ALCOHOL IN SOCIETY (3) CSU

Lecture: 3 hours

This course provides an overview of the epidemiology and toxicology of substance abuse and its relevance to personal and public health. Students will be introduced to the concept of substance abuse and dependence, the definition of licit and illicit drugs, and the pharmacologic, neurologic and physiologic effects of selected substances on the human brain. Political, social and economic factors involved in the supply and demand for drugs will be discussed. Epidemiologic data on the prevalence, incidence, and trends of smoking, alcohol, prescription and other drug dependencies in the U.S. will be covered, as well as risk factors associated with the use and abuse of these substances. Current options for recovery and a survey of local resources will be reviewed.

Student Learning Outcome(s):

1. Differentiate between the major drugs of abuse, mechanisms of action, and beneficial and harmful effects of these substance. 2. Examine the various drug prevention strategies, treatment and support programs available. 3. Analyze and debate current problems of drug use and abuse on individuals, families and the society.

WELDING, GAS AND ELECTRIC

WELDG/E 102 PIPE WELDING HORIZONTAL(2G) AND UPHILL(5G) (3)

Lab: 6 hours

This course provide instruction on welding carbon steel pipe to requirements of the American Society of Manufacturing Engineers Boiler and Pressure Vessel Code- Section 9 Welding and Brazing Qualification using the shielded

metal arc welding process. The course objective requires proficiency in producing high quality welds on 6 inch diameter schedule 80 pipe in the 2G and 5G welding positions.

Student Learning Outcome(s):

Students will be able to produce a high quality weld on carbon steel 6 inch, schedule 80 pipe using the SMAW in the 2G and 5G welding positions.

DEACTIVATED COURSES

The following courses have been deactivated (archived):

Course	Course Title
CHEM T 161	SPECIAL PROJECTS I
E.S.L 004A	COLLEGE ESL IV: WRITING AND GRAMMAR
E.S.L 004B	COLLEGE ESL IV: READING AND VOCABULARY
E.S.L 005A	COLLEGE ESL V: WRITING AND GRAMMAR
E.S.L. 005B	COLLEGE ESL V: READING AND VOCABULARY
E.S.L. 006A	COLLEGE ESL VI: WRITING AND GRAMMAR
E.S.L. 006B	COLLEGE ESL VI: READING AND VOCABULARY
E.S.L. 008	ADVANCED ESL COMPOSITION
ESL 002A	COLLEGE ESL II: WRITING AND GRAMMAR
ESL 003A	COLLEGE ESL III: WRITING AND GRAMMAR
ESL 003B	COLLEGE ESL III: READING AND VOCABULARY
ESL 003C	COLLEGE ESL III: LISTENING AND SPEAKING
ESL 006C	COLLEGE ENGLISH AS A SECOND LANGUAGE VI: LISTENING AND SPEAKING
ESL 008	COLLEGE ESL AS A SECOND LANGUAGE VIII: ADVANCED ESL COMP
LRKSKIL 010B	MATH FUNDAMENTALS

COURSE CHANGES

The following courses have changes to Hours, Titles and/or Units

New Course Titles are in blue

Course	Course Title	New Hours
ARC 151	Materials of Construction	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 152	Equipment of Buildings	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 160	Computers for Designers	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 172	Architectural Drawing I	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 173	Architectural Drawing II	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 201	Architectural Design I	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 202	Architectural Design II	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 261	Computer-Aided Design for Architecture I	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 271	Architectural Drawing III	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ARC 341	GIS Metropolitan Access Planning Systems I	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
BLDGCTQ 215	Small Wind Energy Systems Principles and Practices	<i>Lab: 6 hours</i>
CRPNTRY 148	Computer Assisted Estimating I	<i>Lab: 6 hours</i>
CRPNTRY 149	Computer Assisted Estimating II	<i>Lab: 6 hours</i>
DRAFT 062	CAD for Architects	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
DRAFT 063	CADD for Building	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
DRAFT 064	CADD Laboratory	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
ECONMT 006	Security and Fire Alarm Technician Certification	<i>Lab: 6 hours</i>
ECONMT 007	Home Theater & Commercial Audio, Video Installation Theory	<i>Lab: 6 hours</i>
ECONMT 164	Sustainable Lighting Principles & Practices	<i>Lab: 6 hours</i>
ECONMT 184	Motor Control Principles and Practices	<i>Lab: 6 hours</i>
ECONMT 186	Industrial Electrical Principles and Practices	<i>Lab: 6 hours</i>
ECONMT 193	Conduit Bending and Calculations	<i>Lab: 6 hours</i>
ECONMT 197	Low Voltage Electrical Practices	<i>Lab: 6 hours</i>
ECONMT 199	Journeyman Electrician Exam Preparation	<i>Lab: 6 hours</i>
ENV 101	Foundations of Design I	<i>Lecture: 2.5 hours Lab: 2.5 hours</i>
FASHDSN 111	Clothing Construction	<i>Lab: 10 hours</i>

Course	Course Title	New Hours
FASHDSN 112	Basic Fashion Art and Design	<i>Lab: 10 hours</i>
FASHDSN 118	Advanced Clothing Construction	<i>Lab: 4 hours</i>
FASHDSN 120	Basic Pattern Making & Design	<i>Lab: 10 hours</i>
FASHDSN 122	Grading and Marker Making	<i>Lab: 10 hours</i>
FASHDSN 130	Draping & Design	<i>Lab: 10 hours</i>
FASHDSN 132	Advanced Patterns and Design	<i>Lab: 10 hours</i>
FASHDSN 139	Coordinated Sportswear	<i>Lab: 4 hours</i>
FASHDSN 141	Advanced Design	<i>Lab: 10 hours</i>
FASHDSN 142	Manufacturing Production	<i>Lab: 10 hours</i>
PLUMBNG 133	Installation and Plumbing Fixtures	<i>Lecture: 4 hours Lab: 7 hours</i>
REF A/C 101	Air Conditioning and Refrigeration Principles And Practices-First Semester	<i>Lab: 21 hours</i>
REF A/C 159	Principles and Practices of Electrical Circuits And Controls	<i>Lecture: 3 hours Lab: 4 hours</i>
REF A/C 160	Refrigeration System Principles and Practices	<i>Lecture: 3 hours Lab: 4 hours</i>
REF A/C 161	Air Conditioning System Principles and Practices	<i>Lecture: 3 hours Lab: 4 hours</i>
REF A/C 162	Piping Principles and Practices	<i>Lecture: 3 hours Lab: 4 hours</i>
REF A/C 164	Gas Heating Systems	<i>Lecture: 3 hours Lab: 4 hours</i>
REF A/C 165	Ice Storage Air Conditioning	<i>Lecture: 3 hours Lab: 4 hours</i>
PLUMBNG 246	Principles and Practices of Plumbing Design and Layout	<i>Lecture: 3 hours Lab: 4 hours</i>
SGNGRPH 101	Individual Lettering	<i>Lab: 20 hours</i>
SGNGRPH 102	Exterior Display Signs	<i>Lab: 20 hours</i>
SGNGRPH 103	Window Signs	<i>Lab: 20 hours</i>
SGNGRPH 104	Advance Computer & Design	<i>Lab: 20 hours</i>
VISCOM 103	Basic Computer Systems	<i>Lab: 5 hours</i>
VISCOM 105	Digital Prepress I	<i>Lab: 5 hours</i>
VISCOM 106	Drawing I	<i>Lab: 5 hours</i>
VISCOM 112	Digital Prepress II	<i>Lab: 5 hours</i>
VISCOM 114	Digital Typesetting	<i>Lab: 5 hours</i>
VISCOM 115	Graphic Design II	<i>Lab: 5 hours</i>
VISCOM 116	Advertising Concepts	<i>Lab: 5 hours</i>
VISCOM 118	Digital Drawing	<i>Lab: 5 hours</i>
VISCOM 120	Drawing II	<i>Lab: 5 hours</i>
VISCOM 124	Computer Illustration I	<i>Lab: 5 hours</i>
VISCOM 126	Portfolio Development I	<i>Lab: 5 hours</i>
VISCOM 127	Digital Prepress III	<i>Lab: 5 hours</i>
VISCOM 128	Designing Logos And Trademarks	<i>Lab: 5 hours</i>
VISCOM 129	Digital Photo Manipulation	<i>Lab: 5 hours</i>
VISCOM 130	Drawing III	<i>Lab: 5 hours</i>
VISCOM 131	Computer Illustration II	<i>Lab: 5 hours</i>
VICSOM 132	Portfolio Development II	<i>Lab: 5 hours</i>

Course	Course Title	New Hours
VISCOM 133	Digital Portfolio Preparation	<i>Lab: 5 hours</i>
VISCOM 134	Graphic Design Business Practices	<i>Lab: 5 hours</i>
VISCOM 135	Web Graphics - Preproduction For Websites	<i>Lab: 5 hours</i>
WELDG/E 100	Metal Sculpture I	<i>Lab: 6 hours</i>
WELDG/E 101	Flux Cored Arc Welding	<i>Lab: 7 hours</i>
WELDG/E 104	Gas Tungsten Arc & Shielded Metal Arc Welding	<i>Lab: 6 hours</i>
WELDG/E 142	Gas Tungsten Arc Welding (TIG) & Gas Metal Arc Welding (MIG)	<i>n/a</i>

COURSE REQUISITES

The following courses have updated Prerequisites, Corequisites, and/or Advisories

New

The following courses have newly enforced Requisites:

Course	Course Title	Course Requisite
CO INFO 787	Network Essentials	Prerequisite: CO INFO 701
ECON 001	Principles of Economics I	Prerequisite: MATH 115
ECON 002	Principles of Economics II	Prerequisite: MATH 115
PALEGAL 051	Legal Research	Corequisite: PALEGAL 051; Advisory: ENGLISH 101

Updated

The following courses' Requisites have been updated:

Course	Course Title	New Course Requisite
BAR 133	Barbering Jr. Salon III	Prerequisite: BAR 124
BAR 143	Barbering Sr. Salon I	Prerequisite: BAR 134
CH DEV 022	Practicum in Child Development I	Prerequisite: CH DEV 001, CH DEV 002, CH DEV 007, and CH DEV 011
ENG GEN 131	Statics	Prerequisite: MATH 265 and PHYSICS 101
ENG GEN 151	Materials of Engineering	Prerequisite: CHEM 101 and PHYSICS 101
ENG GEN 220	Electrical Circuits I	Prerequisite: MATH 267 and PHYSICS 102; Corequisite: MATH 275
PHYSICS 101	Physics For Engineers and Scientists I	Corequisite: MATH 265; Advisory: PHYSICS 011 or 012

Discontinued

The following courses' Requisites have been removed:

Course	Course Title
ECONMT 167	Electrical Construction Wiring Techniques
ECONMT 168	Installation of Electrical Wiring
REF A/C 133	Refrigeration Service Procedures I
REF A/C 134	Service for Commercial Refrigeration
REF A/C 135	Air Conditioning and Refrigeration