Career Technical Education (CTE)
Course Code Definitions by Sector and Pathways
2021–22 Users Guide

The course definitions in this user's guide reflect instructional practices and national and state curriculum guidelines for CALPADS reporting as of 2021–22.

Realignment 2021–22
Posted by the California Department of Education – December 2021

Table of Contents

MULTIPLE INDUSTRY SECTORS (MIS) 11
Multiple Pathways (Pathway 999) 11
7000 Exploratory Career Technical Education 11
7001 Exploratory Family and Consumer Sciences (Grades 6-8) 11
AGRICULTURE AND NATURAL RESOURCES SECTOR (AGR) 12
Multiple Pathways (Pathway 999) 12
7100 Intro to Agricultural and Natural Resources 12
Agricultural Business (Pathway 100) 12
7110 Introduction to Agricultural Business 12
7111 Intermediate Agricultural Business (Concentrator) 12
7112 Advanced Agricultural Business (Capstone) 13
Agricultural Mechanics (Pathway 101) 13
7120 Introduction to Agricultural Mechanics 13
7121 Intermediate Agricultural Mechanics (Concentrator) 13
7122 Advanced Agricultural Mechanics (Capstone) 13
Agriscience (Pathway 102) 14
7130 Introduction to Agriscience 14
7131 Intermediate Agriscience (Concentrator) 14
7132 Advanced Agriscience (Capstone) 14
Sustainable Agriculture (Sub-Pathway 102A) 14
7133 Introduction to Sustainable Agriculture 14
7134 Intermediate Sustainable Agriculture (Concentrator) 14
7135 Advanced Sustainable Agriculture (Capstone) 15
Animal Science (Pathway 103) 16
7140 Introduction to Animal Science 16
7141 Intermediate Animal Science (Concentrator) 16
7142 Advanced Animal Science (Capstone) 16
Forestry and Natural Resources (Pathway 104) 16
7150 Introduction to Forestry and Natural Resources 16
7151 Intermediate Forestry and Natural Resources (Concentrator) 16
7152 Advanced Forestry and Natural Resources (Capstone) 17

Ornamental Horticulture (Pathway 105) 17
7160 Introduction to Ornamental Horticulture 17
7161 Intermediate Ornamental Horticulture (Concentrator) 17
7162 Advanced Ornamental Horticulture (Capstone) 17
Floral Design (Sub-Pathway 105A) 17
7163 Introduction to Floral Design 17
7164 Intermediate Floral Design (Concentrator) 17
7165 Advanced Floral Design (Capstone) 18
Plant and Soil Science (Pathway 106) 18
7170 Introduction to Plant Science 18
7171 Intermediate Plant Science (Concentrator) 18
7172 Advanced Plant Science (Capstone) 18
ARTS, MEDIA, AND ENTERTAINMENT SECTOR (AME) 18
Multiple Pathways (Pathway 999) 19
7200 Introduction to Arts, Media, and Entertainment 19
Graphic Design (Sub-Pathway 111A) 19
7210 Introduction to Graphic Design 19
7211 Intermediate Graphic Design (Concentrator) 19
7212 Advanced Graphic Design (Capstone) 20
Animation (Sub-Pathway 111B) 20
7213 Introduction to Animation 20
7214 Intermediate Animation (Concentrator) 20
7215 Advanced Animation (Capstone) 20
Visual/Commercial Art (Sub-Pathway 111C) 21
7216 Introduction to Visual/Commercial Art 21
7217 Intermediate Visual/Commercial Art (Concentrator) 21
7218 Advanced Visual/Commercial Art (Capstone) 21
Media Arts (Sub-Pathway 111D) 21
7219 Introduction to Media Arts 21
7220 Intermediate Media Arts (Concentrator) 22
7221 Advanced Media Arts (Capstone) 22
Dance/Choreography (Sub-Pathway 112A) 22
7230 Introduction to Dance/Choreography 22

7231 Intermediate Dance/Choreography (Concentrator) 23
7232 Advanced Dance/Choreography (Capstone) 23
Professional Music (Sub-Pathway 112B) 23
7233 Introduction to Professional Music 23
7234 Intermediate Musical Performance (Concentrator) 23
7235 Advanced Professional Music (Capstone) 23
Professional Theatre (Sub-Pathway 112C) 24
7236 Introduction to Professional Theatre 24
7237 Intermediate Professional Theatre (Concentrator) 24
7238 Advanced Professional Theatre (Capstone) 24
Stage Technology (Sub-Pathway 113A) 24
7240 Introduction to Stage Technology 24
7241 Intermediate Stage Technology (Concentrator) 25
7242 Advanced Stage Technology (Capstone) 25
Film/Video Production (Sub-Pathway 113B) 25
7243 Introduction to /Film/Video Production 25
7244 Intermediate Film/Video Production (Concentrator) 25
7245 Advanced Film/Video Production (Capstone) 26
Multimedia Production (Sub-Pathway 113C) 26
7246 Introduction to Multimedia Production 26
7247 Intermediate Multimedia Production (Concentrator) 26
7248 Advanced Multimedia Sound Production (Capstone) 26
7249 Advanced Multimedia Film/Video Production (Capstone) 27
Game Design and Integration (Pathway 114) 28
7260 Introduction to Game Design 28
7261 Intermediate Game Design (Concentrator) 28
7262 Advance Game Design (Capstone) 28
BUILDING AND CONSTRUCTION TRADES SECTOR (BLD) 29
Multiple Pathways (Pathway 999) 29
7300 Introduction to Building and Construction Trades 29
Cabinetry, Millwork, and Woodworking (Pathway 120) 29
7310 Introduction to Cabinetry, Millwork, and Woodworking 29
7311 Intermediate Cabinetry, Millwork, and Woodworking (Concentrator) 29

7312 Advanced Cabinetry, Millwork, and Woodworking (Capstone) 30
Engineering and Heavy Construction (Pathway 121) 30
7320 Introduction to Engineering and Heavy Construction 30
7321 Intermediate Engineering and Heavy Construction (Concentrator) 30
7322 Advanced Engineering and Heavy Construction (Capstone) 30
Mechanical Systems Installation and Repair (Pathway 122) 31
7330 Introduction to Mechanical Systems Installation and Repair 31
7331 Intermediate Mechanical Systems Installation and Repair (Concentrator) 31
7332 Advanced Mechanical Systems Installation and Repair (Capstone) 31
Residential and Commercial Construction (Pathway 123) 32
7340 Introduction to Residential and Commercial Construction 32
7341 Intermediate Residential and Commercial Construction (Concentrator) 32
7342 Advanced Residential and Commercial Construction (Capstone) 32
BUSINESS AND FINANCE SECTOR (FIN) 33
Multiple Pathways (Pathway 999) 33
7400 Introduction to Business and Finance 33
Business Management (Pathway 182) 34
7410 Intermediate Business Communication Technologies (Concentrator) 34
7411 Intermediate Business Management Technologies (Concentrator) 34
7412 Advanced Business Management Enterprise and Project Management (Capstone) 34
Financial Services (Pathway 180) 35
7420 Intermediate Financial Services and Banking (Concentrator) 35
7421 Intermediate Financial Services Management and Business Economics (Concentrator) 35
7422 Advanced Financial Services Business Accounting (Capstone) 36
International Business (Pathway 181) 36
7430 Intermediate International Business (Concentrator) 36
7431 Intermediate International Business Communications (Concentrator) 36
7432 Advanced International Business Enterprise (Capstone) 37
EDUCATION, CHILD DEVELOPMENT, & FAMILY SERVICES SECTOR (EDU) 37
Multiple Pathways (Pathway 999) 38

7500 Introduction to Education, Child Development, and Family Services 38
CHILD DEVELOPMENT (Pathway 130) 38
7510 Intermediate Child Development (Concentrator) 38
7511 Advanced Child Development (Capstone) 38
CONSUMER SERVICES (Pathway 131) 39
7520 Intermediate Consumer Services (Concentrator) 39
7521 Advanced Consumer Services (Capstone) 39
EDUCATION (Pathway 132) 39
7530 Intermediate Education (Concentrator) 39
7531 Advanced Education (Capstone) 40
FAMILY AND HUMAN SERVICES (Pathway 133) 40
7540 Intermediate Family and Human Services (Concentrator) 40
7541 Advanced Family and Human Services (Capstone) 40
ENERGY, ENVIRONMENT, AND UTILITIES SECTOR (NRG) 41
Multiple Pathways (Pathway 999) 41
7600 Introduction to Energy, Environment, and Utilities 41
Environmental Resources (Pathway 141) 41
7610 Introduction to Environmental Resources 41
7611 Intermediate Environmental Resources (Concentrator) 41
7612 Advanced Environmental Resources (Capstone) 42
Energy and Power Technology (Pathway 143) 42
7620 Introduction to Energy and Power Technology 42
7621 Intermediate Energy and Power Technology (Concentrator) 42
7622 Advanced Energy and Power Technology (Capstone) 42
Telecommunications (Pathway 142) 43
7630 Introduction to Telecommunications 43
7631 Intermediate Telecommunications (Concentrator) 43
7632 Advanced Telecommunications (Capstone) 43
ENGINEERING AND ARCHITECTURE SECTOR (ENG) 44
Multiple Pathways (Pathway 999) 44
7700 Introduction to Engineering and Architecture 44
Architectural Design (Pathway 150) 44
7710 Intermediate Architectural Design (Concentrator) 44

7711 Advanced Architectural Design (Capstone) 44
Engineering Technology (Pathway 153) 45
7720 Intermediate Engineering Technology (Concentrator) 45
7721 Advanced Engineering Technology (Capstone) 45
Engineering Design (Pathway 152) 45
7730 Intermediate Engineering Design (Concentrator) 45
7731 Advanced Engineering Design (Capstone) 45
Environmental Engineering (Pathway 154) 46
7740 Intermediate Environmental Engineering (Concentrator) 46
7741 Advanced Environmental Engineering (Capstone) 46
FASHION AND INTERIOR DESIGN SECTOR (FSN) 46
Multiple Pathways (Pathway 999) 46
7800 Introduction to Fashion and Interior Design 46
Fashion Design and Merchandising (Pathway 160) 47
7810 Intermediate Fashion Design and Merchandising (Concentrator) 47
7811 Advanced Fashion Design and Merchandising (Capstone) 47
Interior Design (Pathway 161) 48
7820 Intermediate Interior Design (Concentrator) 48
7821 Advanced Interior Design (Capstone) 48
Makeup Artistry (Sub-Pathway 162A) 48
7830 Intermediate Makeup Artistry (Level 1) (Concentrator) 48
7831 Advanced Makeup Artistry (Level 2) (Capstone) 49
Barbering (Sub-Pathway 162B) 49
7832 Introduction to Barbering 49
7833 Intermediate Level 2 Barbering (Concentrator) 49
7834 Intermediate Level 2 Barbering (Concentrator) 49
7835 Advanced Level 4 Barbering (Capstone) 50
Cosmetology (Sub-Pathway 162C) 50
7836 Introduction to Cosmetology 50
7837 Intermediate Level 2 Cosmetology (Concentrator) 50
7838 Intermediate Level 3 Cosmetology (Concentrator) 51
7839 Advanced Level 4 Cosmetology 51
Manicuring (Sub-Pathway 162D) 51

7840 Intermediate Level 1 Manicuring (Concentrator) 51
7841 Advanced Level 2 Manicuring (Capstone) 52
HEALTH SCIENCE AND MEDICAL TECHNOLOGY SECTOR (HLT) 53
Multiple Pathways (Pathway 999) 53
7900 Introduction to Health Science and Medical Technology 53
Biotechnology (Pathway 196) 53
7910 Introduction to Biotechnology 53
7911 Intermediate Biotechnology (Concentrator) 54
7912 Advanced Biotechnology (Capstone) 54
Patient Care (Pathway 198) 54
7920 Introduction to Patient Care 54
7921 Intermediate Patient Care (Concentrator) 54
7922 Advanced Patient Care (Capstone) 55
Healthcare Administrative Services (Pathway 250) 55
7930 Introduction to Healthcare Administrative Services 55
7931 Intermediate Healthcare Administrative Services (Concentrator) 55
7932 Advanced Healthcare Administrative Services (Capstone) 56
Healthcare Operational Support Services (Pathway 197) 56
7940 Introduction to Healthcare Operational Support Services 56
7941 Intermediate Healthcare Operational Support (Concentrator) 56
7942 Advanced Healthcare Operational Support (Capstone) 57
Public and Community Health (Pathway 199) 58
7950 Introduction to Public and Community Health 58
7951 Intermediate Public and Community Health (Concentrator) 58
7952 Advanced Public and Community Health (Capstone) 58
Mental and Behavioral Health (Pathway 195) 59
7960 Introduction to Mental and Behavioral Health 59
7961 Intermediate Mental and Behavioral Health (Concentrator) 59
7962 Advanced Mental and Behavioral Health (Capstone) 59
HOSPITALITY, TOURISM, AND RECREATION SECTOR (HOS) 59
Multiple Pathways (Pathway 999) 60
8000 Introduction to Hospitality, Tourism, and Recreation 60
Food Science, Dietetics, and Nutrition (Pathway 200) 60

8010 Intermediate Food Science, Dietetics, and Nutrition (Concentrator) 60
8011 Advanced Food Science, Dietetics, and Nutrition (Capstone) 61
Food Service and Hospitality (Pathway 201) 61
8020 Intermediate Food Service and Hospitality (Concentrator) 61
8021 Advanced Food Service and Hospitality (Capstone) 61
Hospitality, Tourism, and Recreation (Pathway 202) 62
8030 Intermediate Hospitality, Tourism and Recreation (Concentrator) 62
8031 Advanced Hospitality, Tourism and Recreation (Capstone) 62
INFORMATION AND COMMUNICATION TECHNOLOGIES SECTOR (INF) 62
Multiple Pathways (Pathway 999) 63
8100 Introduction to Information and Communication Technologies 63
Information Support and Services (Pathway 170) 63
8110 Introduction to Information Support Services 63
8111 Intermediate Information Support Services (Concentrator) 63
8112 Advanced Information Support Services (Capstone) 64
Networking (Pathway 172) 65
8120 Introduction to Networking 65
8121 Intermediate Networking (Concentrator) 65
8122 Advanced Networking (Capstone) 65
Software and Systems Development (Pathway 174) 65
8130 Introduction to Systems Programming 65
8131 Intermediate Systems Programming (Concentrator) 66
8132 Advanced Systems Programming (Capstone) 66
8133 Introduction to Web and Social Media Programming and Design 66
8134 Intermediate Web and Social Media Programming and Design (Concentrator) 66
8135 Advanced Web and Social Media Programming and Design (Capstone) 67
Games and Simulations (Pathway 175) 67
8140 Introduction to Games and Simulation 67
8141 Intermediate Games and Simulation (Concentrator) 67
8142 Advanced Games and Simulation (Capstone) 67
MANUFACTURING AND PRODUCT DEVELOPMENT SECTOR (MAN) 68
Multiple Pathways (Pathway 999) 68

8200 Introduction to Manufacturing and Product Development 68
Graphic Production Technologies (Pathway 210) 68
8210 Intermediate Graphic Production Technologies (Concentrator) 68
8211 Advanced Graphic Production Technologies (Capstone) 68
Machining and Forming Technologies (Pathway 212) 69
8220 Intermediate Machining and Forming Technologies (Concentrator) 69
8221 Advanced Machining and Forming Technologies (Capstone) 69
Welding and Materials Joining (Pathway 213) 70
8230 Intermediate Welding and Materials Joining (Concentrator) 70
8231 Advanced Welding and Materials Joining (Capstone) 70
Product Innovation and Design (Pathway 216) 70
8240 Intermediate Product Innovation and Design (Concentrator) 70
8241 Advanced Product Innovation and Design (Capstone) 70
MARKETING, SALES, AND SERVICES SECTOR (MSS) 71
Multiple Pathways (Pathway 999) 71
8300 Introduction to Marketing, Sales, and Service 71
Marketing (Pathway 244) 71
8310 Intermediate Marketing (Concentrator) 71
8311 Advanced Marketing (Capstone) 71
Professional Sales (Pathway 243) 72
8320 Intermediate Professional Sales (Concentrator) 72
8321 Advanced Professional Sales (Capstone) 72
Entrepreneurship/Self-Employment (Pathway 241) 72
8330 Entrepreneurship/Self-Employment (Concentrator) 72
8331 Advanced Entrepreneurship/Self-Employment (Capstone) 72
PUBLIC SERVICES SECTOR (PUB) 73
Multiple Pathways (Pathway 999) 73
8400 Introduction to Public Services 73
Public Safety (Pathway 232) 73
8410 Introduction to Public Safety (Introduction) 73
8411 Intermediate Public Safety (Concentration) 74
8412 Advanced Public Safety (Capstone) 74
Emergency Response (Pathway 233) 74

8420 Introduction to Emergency Response (Introduction) 74
8421 Intermediate Emergency Response (Concentration) 75
8422 Advanced Emergency Response (Capstone) 75
Legal Practices (Pathway 231) 75
8430 Introduction to Legal Practices 75
8431 Intermediate Legal Practices (Concentrator) 76
8432 Advanced Legal Practices (Capstone) 76
TRANSPORTATION SECTOR (TRA) 76
Multiple Pathways (Pathway 999) 76
8500 Introduction to Transportation 76
Operations (Pathway 223) 77
8510 Introduction to Operations 77
8511 Intermediate Operations (Concentrator) 77
8512 Advanced Operations (Capstone) 77
Structural Repair and Refinishing (Pathway 220) 77
8520 Introduction to Structural Repair and Refinishing 77
8521 Intermediate Structural Repair and Refinishing (Concentrator) 78
8522 Advanced Structural Repair and Refinishing (Capstone) 78
Systems Diagnostics, Service, and Repair (Pathway 221) 78
8530 Introduction to Systems Diagnostics, Service, and Repair 78
8531 Intermediate Systems Diagnostics, Service, and Repair (Concentrator) 78
8532 Advanced Systems Diagnostics, Service, and Repair (Capstone) 79
WORK EXPERIENCE EDUCATION (WEE) 80
9500 Exploratory Work Experience Education (EWEE) 80
9501 General Work Experience Education (GWEE) 80
9502 Career Technical Work Experience Education (CTWEE) 81

California Department of Education Course Code Definitions by Sector and Pathways

The course definitions below reflect instructional practices and national and state curriculum guidelines for CalPADS reporting as of 2020–21.

MULTIPLE INDUSTRY SECTORS (MIS)

Multiple Pathways (Pathway 999)

7000 Exploratory Career Technical Education

This code is used for courses that explore multiple industry sectors and/or pathways. This course may be used to recruit students into a variety of sectors and/or pathways, allowing them to make a more confident decision about which one to pursue. It is a pre-introductory class and the class does not contribute to the 300 hours requirement of a pathway.

7001 Exploratory Family and Consumer Sciences (Grades 6–8)

This course emphasizes the exploration of the Family and Consumer Sciences content areas, and related career opportunities. Instruction in grades six and seven targets self-development and management, relationships with others, and preparing for family, work, and community living. In grade eight, students study parenting and child development, personal and family relationships, making consumer decisions, personal image and clothing, healthy food choices, designing living environments and development of community, leadership through FCCLA, citizenship, and career roles.

AGRICULTURE AND NATURAL RESOURCES SECTOR (AGR)

The Agriculture and Natural Resources sector is designed to provide a foundation in agriculture for all agriculture students in California. Students engage in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and skill preparation in seven pathways. The pathways emphasize real-world, occupationally relevant experiences of significant scope and depth in Agricultural Business, Agricultural Mechanics, Agriscience, Animal Science, Forestry and Natural Resources, Ornamental Horticulture, and Plant and Soil Science. Integral components of classroom and laboratory instruction, supervised agricultural experience projects, and leadership and interpersonal skills development prepare students for continued training, advanced educational opportunities, or entry to a career.

Multiple Pathways (Pathway 999)

7100 Intro to Agricultural and Natural Resources

This course typically will include content related to Earth Science in Agriculture or Agriculture Biology. Other Agriscience topics of an introductory nature are also appropriate.

Agricultural Business (Pathway 100)

7110 Introduction to Agricultural Business

This course is offered to first year agriculture students to provide insight to the different pathways available in agriculture including their application to agriculture business. It has been designed to provide students with a unique perspective of agriculture and its impact on American Society.

7111 Intermediate Agricultural Business (Concentrator)

This course will include topics related but not limited to human relationships and effective communication, issue analysis, decision-making and problem-solving, leadership qualities and styles, and ensuring successful completion of group activities. The students then

learn and enhance their written and oral communication skills by presenting their views and opinions to the class. Students learn how to arrange and present debates, speeches, and interviews to be effective leaders in today's society.

7112 Advanced Agricultural Business (Capstone)

This course prepares individuals to perform tasks related to agribusiness, marketing, sales, agricultural economics, and management of farm and agriculturally related enterprises. It comprises the study of agribusiness-related careers, farm safety management, responsibilities of management, government organizations and regulations, basic microeconomics and macroeconomics, agricultural credit, record keeping and accounting, cash flow, introduction to taxes, marketing, history and current activities of agricultural cooperatives, purchasing, laws of significance to agriculture, and management decision aids.

Agricultural Mechanics (Pathway 101)

7120 Introduction to Agricultural Mechanics

This course provides theory and hands-on experiences that provide opportunities for students to develop basic knowledge and skills in agricultural mechanics. Instructional areas include the basic fundamentals of maintaining and repairing small gasoline engines, basic electricity, welding, construction, cold metal work, and operating agricultural equipment safely.

7121 Intermediate Agricultural Mechanics (Concentrator)

This course in agriculture mechanics focuses on specialized skill development in welding, fabrication, equipment operation and repair.

7122 Advanced Agricultural Mechanics (Capstone)

This course may include advanced skill development in welding, fabrication, equipment operation and repair.

Agriscience (Pathway 102)

7130 Introduction to Agriscience

This course typically will include content related to Earth Science in Agriculture or Agriculture Biology. Other Agriscience topics of an introductory nature are also appropriate.

7131 Intermediate Agriscience (Concentrator)

This course will be the second in a sequence and requires a prerequisite course. Similar topics as found with introductory courses and would include Agriculture Chemistry.

7132 Advanced Agriscience (Capstone)

Advanced level Agriscience Courses will typically be the third course in a sequence. Courses might focus on Physics applied to agriculture.

Sustainable Agriculture (Sub-Pathway 102A)

7133 Introduction to Sustainable Agriculture

This course number is intended for the content of the UCCI adopted course Biology and Sustainable Agriculture. Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our environment. Sustainability creates and maintains the conditions under which humans and the biotic world can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.

7134 Intermediate Sustainable Agriculture (Concentrator)

This course number is intended for the content of the UCCI adopted course Chemistry and Agriscience. This course explores the physical and chemical nature of soil as well as the relationships between soil, plants, animals and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production.

7135 Advanced Sustainable Agriculture (Capstone)

This course number is intended for the content of the UCCI adopted course Advanced Interdisciplinary Science for Sustainable Agriculture. This integrated class combines an interdisciplinary approach to laboratory science and research with agricultural management principles. Using skills and principles learned in the course, students design systems and experiments to solve agricultural management issues currently facing the industry.

Animal Science (Pathway 103)

7140 Introduction to Animal Science

This course imparts information about the care and management of domestic and farm animals. These courses may cover animal nutrition, health, behavior, selection, reproduction, anatomy and physiology, facilities, product processing, and marketing. Students will be introduced to various species of large and small livestock or they may learn how to care for and maintain livestock as a more inclusive study.

7141 Intermediate Animal Science (Concentrator)

This course focuses in a more specific area such as Small Animal Care, Large Animal Care, Aquaculture, Veterinary Science, Animal Anatomy, Animal Nutrition, Animal Reproduction, Dairy Science, Equine Science or other areas of animal agriculture.

7142 Advanced Animal Science (Capstone)

This course focuses in a specific area such as Small Animal Care, Large Animal Care, Aquaculture, Veterinary Science, Animal Anatomy, Animal Nutrition, Animal Reproduction, Dairy Science, Equine Science or other areas of animal agriculture. Additionally, capstone courses will address, marketing, sales, agricultural economics, cash flow and management of farms, ranches and animal agriculture related enterprises.

Forestry and Natural Resources (Pathway 104)

7150 Introduction to Forestry and Natural Resources

This course provides insight to the different careers and industry related to Forestry and Natural Resources. Courses will include a focus on an understanding of the importance of forest ecology, recognizing species of trees and forest plants, tree and plant growth and development, forest and fire management, harvesting, timber stand improvement in both wild land and urban forests.

7151 Intermediate Forestry and Natural Resources (Concentrator)

This course provides a more specific area of focus such as wildlife management, resource management, forestry and the development of management plans.

7152 Advanced Forestry and Natural Resources (Capstone)

This course provides a more specific area of focus such as wildlife management, resource management, forestry and the development of management plans. This will include marketing, sales, economics, cash flow and management of forest, wildlife and natural resource related enterprises.

Ornamental Horticulture (Pathway 105)

7160 Introduction to Ornamental Horticulture

This course exposes students to the art and science of growing plants, shrubs, trees, flowers, fruits, and vegetables. They provide information regarding the care and propagation of plants, flowers, trees, and shrubs, but place a special emphasis on those used for decorative and aesthetic purposes. In doing so, they cover a wide variety of topics, including greenhouse and nursery operations, soils and media mixtures, fruit and vegetable production, turf/golf course management, interior and exterior plant scaping, irrigation systems, weed and pest control.

7161 Intermediate Ornamental Horticulture (Concentrator)

This course addresses more specific areas of focus to include Landscape Design, Turf Grass propagation, Greenhouse and Nursery production.

7162 Advanced Ornamental Horticulture (Capstone)

This course expands on the areas of Landscape Design, Turf Grass propagation, Greenhouse and Nursery production. Additionally, the marketing, sales, economics, cash flow and management of landscape design, greenhouse, nursery and related enterprises.

CDE Course Codes Realignment 2021–22

Floral Design (Sub-Pathway 105A)

7163 Introduction to Floral Design

This course focuses on the art applied to floral design, care and handling of cut flowers, and the mechanics of floral design.

7164 Intermediate Floral Design (Concentrator)

This course builds on the introductory course with increased focus on the art of design, handling of cut flowers and the mechanics of floral design while including the selection of quality flowers and greens, budgeting, retail pricing and presentation.

7165 Advanced Floral Design (Capstone)

This course builds on the concentrator course with the addition of marketing, sales, economics, cash flow and management of the retail and wholesale floral business. This will include how to prepare a bid for floral products and services for events.

Plant and Soil Science (Pathway 106)

7170 Introduction to Plant Science

This course provides knowledge about the propagation of plants for food and fiber. These courses may cover such topics as plant growth and health, irrigation, pest and weed control, food and fiber processing, and farm operations. They may also cover the knowledge and skills needed to produce all types of crops or may emphasize a particular area of the agricultural industry.

7171 Intermediate Plant Science (Concentrator)

This course will focus on more specific areas of plant science such as soil science, viticulture, vegetables, grains, specialty crops. Irrigation and weed and pest control may also be addressed.

7172 Advanced Plant Science (Capstone)

This course will continue to focus on more specific areas such as soil science, viticulture, vegetables, grains specialty crops, irrigation, weed and pest control. Additionally, the marketing, sales, economics, cash flow and management of crops and related enterprises will be addressed.

ARTS, MEDIA, AND ENTERTAINMENT SECTOR (AME)

Of all the career industries, the Arts, Media, and Entertainment sector requires per-haps the greatest cross-disciplinary interaction because the work in this sector has a propensity to be largely project-based, requiring both independent work and interdependent management skills for career success. New technologies are also constantly reshaping the boundaries and skill sets of many arts career pathways. Consequently, core arts-sector occupations demand constantly varying combinations of artistic imagination, metaphoric representation, symbolic connections, and technical skills. Successful career preparation involves both broad and in-depth academic and technical preparation as well as the cultivation of twenty-first-century skill assets, such as flexibility, problem-solving abilities, and interpersonal skills. Careers in the Arts, Media, and Entertainment sector fall into four general pathways: Design, Visual, and

Media Arts; Performing Arts; Production and Managerial Arts; and Game Design and Integration. The anchor and pathway standards make explicit the appropriate knowledge, skills, and practical experience students should have in order to pursue their chosen profession, whether that profession requires postsecondary education, graduate training, or apprenticeship.

Learning the skills and knowledge for creating, refining, and sharing work in the Arts, Media, and Entertainment industry sector promotes teamwork, communication, creative thinking, and decision-making abilities—traits that are necessary to function successfully in the competitive and media-rich twenty-first century. Through the manipulation of sight, sound, and motion, those choosing a pathway from this sector reach out in unique ways to enhance the quality of life for those around them.

Multiple Pathways (Pathway 999)

7200 Introduction to Arts, Media, and Entertainment

This code is used for AME courses that are introductory to and include content for more than one pathway within the AME sector. This course may be used recruit students into a variety of AME pathways, allowing them to make a more confident decision about which one to pursue.

CDE Course Codes Realignment 2021–22

Design, Visual, and Media Arts (Pathway 111)

Graphic Design (Sub-Pathway 111A)

7210 Introduction to Graphic Design

This course provides students with a foundational understanding of digital design, tools, processes and systems common to careers in graphic arts and digital production. Exploration topics include printing enterprise, art and copy preparation, graphic design, image generation and assembly, production photography, graphic reproduction operations, binding and/or finishing related to digital imaging, printing, and digital production. This course serves as an introductory course to a variety of AME Pathways including, Graphic Arts, Professional, Photography, Animation, and Game Design.

7211 Intermediate Graphic Design (Concentrator)

This course provides students with an in-depth experience with digital design tools, processes and systems common to careers in graphic arts and digital production. Career examination and skill building include

printing enterprise, art and copy preparation, graphic design, image generation and assembly, production photography, graphic reproduction operations, binding and/or finishing related to digital imaging, printing, and digital production.

7212 Advanced Graphic Design (Capstone)

This capstone course provides students with an in depth understanding of digital design tools, processes and systems common to careers in graphic arts and digital production. Close examination of topics includes printing enterprise, art and copy preparation, graphic design, image generation and assembly, production photography, graphic reproduction operations, binding and/or finishing related to digital imaging, printing, and digital production. This course serves as the Capstone course to Graphic Design.

Animation (Sub-Pathway 111B)

7213 Introduction to Animation

This course introduces students to the artistic and technological foundations to create animated presentations for industry and entertainment. Students will develop basic drawing and design skills, learn the fundamentals and physics movement, the concept of communication to a given audience, and techniques for self-expression through a variety of animated formats. They will explore the careers and requisite skills required by animators in both entertainment and the business world.

7214 Intermediate Animation (Concentrator)

This course will build on foundational artistic and technical animation skills to prepare students for specific career paths in the Animation industry. Students will refine artistic skills and competencies and examine the variety of jobs in creating and producing within the professional animation industry. Students will explore the career options and opportunities in their particular career path.6

7215 Advanced Animation (Capstone)

This capstone course will provide students with the opportunity to function in a variety of roles within the animation production team. Students will utilize skills acquired in introductory and concentration level animation courses to solve authentic industry problems and to produce a variety of professional quality animation products.

Visual/Commercial Art (Sub-Pathway 111C)

7216 Introduction to Visual/Commercial Art

This course introduces the commercial application of design principles to communicate on a two-dimensional plane. Students will create, manipulate, and analyze artistic elements and media used to express feelings and communicate ideas. Students will study the historical and cultural development of two-dimensional arts and its impact as a communications tool. Students will become familiar with current practices and applications including computer design and career focused traditional arts disciplines.

7217 Intermediate Visual/Commercial Art (Concentrator)

This course will emphasize the manipulation of artistic elements, media, and competencies in and beyond the two-dimensional plane. Students will use a variety of media to create industry relevant two and three-dimensional works that are personally and culturally expressive and industry relevant. Courses will cover client relations, the aesthetic and practical applications of design principles in art across disciplines, in architecture, fashion, and other creative industries.

7218 Advanced Visual/Commercial Art (Capstone)

This capstone course in the Visual/Commercial Art sequence applies learning from Introductory and Intermediate Visual /Commercial Art in a project-based environment. Course work will focus on 2-D and 3-D artistic products and their application to an industry/commercial environment. Skills and knowledge will be demonstrated in both the educational and work-based setting. Instruction will focus on applying student knowledge of drawing, painting, graphic design, photo, and 3 –D forms in industry environments. Students will create artistic products that demonstrate entry level workforce skills and comprehensive knowledge of industry practices.

Media Arts (Sub-Pathway 111D)

7219 Introduction to Media Arts

This course will combine competencies in film, video, computer, and live production, as well as foundational knowledge in design to introduce students to a variety of jobs in the multimedia/communications/game design workforce. Instruction will focus on the interaction between media sources in live, recorded, and web-based productions. Students will

develop skills in computer design, film and video production, lighting, sound, and projection design, and print media design. Students will also explore career options within this rapidly expanding industry sector.

7220 Intermediate Media Arts (Concentrator)

This course builds on competencies in film, video, computer, and live production design, as well as foundational knowledge in design. Coursework will focus on particular careers in the multimedia/communications /game design workforce. Instruction will focus on the interaction between media sources in live, recorded, and web-based productions. Coursework will deepen specific skills in computer design, film and video production, lighting, sound, and projection design, and print media design in preparation for a content specific Capstone course.

7221 Advanced Media Arts (Capstone)

This capstone course in the Media Arts sequence applies learning from Introductory and Intermediate Media Arts in a project-based environment. Course work will focus on creative components film, video, computer, and live production application in both the educational and work-based setting. Instruction will focus on applying student knowledge of computer and print media, film and video production, digital lighting sound and projection design, in industry environments. Students will create media arts products that demonstrate entry level workforce skills and comprehensive knowledge of industry practices.

Performing Arts (Pathway 112)

Dance/Choreography (Sub-Pathway 112A)

7230 Introduction to Dance/Choreography

This course explores the variety of career pathways available in dance. It introduces dance technique, choreography. Students will explore the variety of dance genre (modern, jazz, ballet, tap, and contemporary). Students gain an appreciation of dance as an art form and develop the skills necessary to pursue a variety of careers in dance. The course includes application of the elements and principles of dance, study of historical and contemporary dance, and exploration of the art form from a career perspective.

7231 Intermediate Dance/Choreography (Concentrator)

This course will refine dance and choreographic skills and introduce production elements (i.e., staging, lighting, and sound) and company organization and management in professional dance careers.

7232 Advanced Dance/Choreography (Capstone)

This course will apply dance and choreographic skills to create project-based performances for live, film and video production. Students will prepare audition or choreographic portfolios, learn business/managerial skills, and develop a professional career plan.

Professional Music (Sub-Pathway 112B)

7233 Introduction to Professional Music

This course explores the variety of career pathways available in Professional Music. It introduces performance technique, in a variety of musical genre including jazz, classical, modern and pop. Students will explore choral, solo performance, and ensemble music. Students gain an appreciation of music as an art form and develop the skills necessary to pursue a variety of careers in professional music. The course includes music theory and performance as well as the study of historical and contemporary music, with a focus on musical careers.

7234 Intermediate Musical Performance (Concentrator)

This course will build on foundational music theory and technical knowledge to prepare students for specific career paths in music creation, performance, or production. Students will refine skills and competencies in their particular pathway of the professional music industry. Students will explore the career options and opportunities in their particular career path.

7235 Advanced Professional Music (Capstone)

This course will build on music theory and technical knowledge to prepare students for specific career paths in music creation, arrangement, and production. Students will explore music as an interpretive form of artistic expression and as a practical communications tool. Students will be trained to compose and appreciate music in a variety of genre. The historical and cultural context of composition will also be examined. The psychological impact on audience and market will be evaluated to maximize the effectiveness of a composition or arrangement. Students will

explore the spectrum of career options ranging from artistic communication to entertainment to marketing and identify the effective use of musical composition in each pathway.

Professional Theatre (Sub-Pathway 112C)

7236 Introduction to Professional Theatre

This course introduces the variety of careers in professional theater. Students will study a range of professional models from Broadway to regional to community theatre to identify established practices and basic competencies required to create professional theatre.

7237 Intermediate Professional Theatre (Concentrator)

This course will build on the foundational skills in a variety of technical and performance disciplines to create project-based live performances in theatre and musical theatre. Students will explore portfolio preparation for live and film/video performance. Students will also be introduced to the business/managerial careers associated with live theatrical performance.

7238 Advanced Professional Theatre (Capstone)

This course will apply skills theatrical performance to create project-based performances in theatre, musical theatre, film and video production. Students will prepare audition or direction portfolios, learn business/managerial skills, and develop a professional career plan.

Production and Managerial Arts (Pathway 113)

Stage Technology (Sub-Pathway 113A)

7240 Introduction to Stage Technology

This course introduces the techniques and processes involved in stage management, prop construction, lighting, the setup and operation of sound systems, and the operation of projection equipment. The program develops basic construction techniques for stage property and scenery; affords practice in stage crew work, which includes the erection and striking of scenery; and provides an overview of related occupations in radio and television.

7241 Intermediate Stage Technology (Concentrator)

This course will train students in the use and management of the various elements of technical production during a dance, music, or theatrical performance. These elements include the rigging and movement of sets, scenery, and lighting equipment, the use of computerized switching systems for lighting and sound, the management and distribution of stage properties, etc. Students will also be taught to manage the complex support tasks that are involved in a performance. They will explore apprenticeship, higher education options career training, and professional placement.

7242 Advanced Stage Technology (Capstone)

This course will build on foundation skills in Stage Technology and Production to include design in variety of theatrical productions. Students will use analytical skills to interpret literary material to create a design concept. Students will be familiar with design elements, drafting techniques, computer software, and modeling skills necessary to prepare designs and models of theatrical sets. They will be trained to interpret mechanical drawings to safely use appropriate power equipment to construct sets based on artist's designs. They will also become familiar with the diverse array of production materials and techniques used to augment live theatrical productions.

Film/Video Production (Sub-Pathway 113B)

7243 Introduction to /Film/Video Production

This course trains students to use film as a tool for communication and self-expression in entertainment and industry. Students will study the history and aesthetics of film as a complex, collaborative art form. They will explore the foundational elements of writing, photography, visual perception, and elements of design as they apply to cinematic expression. Students will analyze the use of film and video to share ideas and influence culture. They will also be trained in the multiple technical competencies required to communicate through film and the rich variety of employment opportunities available in the field.

7244 Intermediate Film/Video Production (Concentrator)

This course covers the history and development of the cinema, documentaries, and other new media and film technologies. Students learn skills and practices in various aspects of cinema and video

production by applying the elements of art, principles of design, integration of technology for the effective visual communication of their ideas, feelings, and values. Students develop skills, including camera/recording operation, framing and composition, manipulations of space and time, idea development and communication, the mechanics and psychology of editing, script writing or text creation, light and sound, and impact.

7245 Advanced Film/Video Production (Capstone)

This course will examine specific uses of film and video technology in various entertainment and industry sectors. Students receive advanced training in pre and post production jobs and competencies, current and emerging technologies, and the collaborative nature of the creative process involved in video production.

Multimedia Production (Sub-Pathway 113C)

7246 Introduction to Multimedia Production

This course will provide foundational competencies in film, video, computer, and live production, as well as foundational knowledge in design to prepare students for employment in a variety of jobs in the multimedia/communications workforce. Instruction will focus on the interaction between media sources in live, recorded, and web-based productions. Students will develop skills in computer design, film and video production, lighting, sound, and projection design, and print media design.

7247 Intermediate Multimedia Production (Concentrator)

This course provides students skills and competencies in broadcast media including television, radio, web/pod casting, and emerging broadcasting technologies. Students will become familiar with current and emerging technology and practices and the variety of career opportunities that present themselves in the live broadcasting pathways (see Television Production and Radio Presentation for further information).

7248 Advanced Multimedia Sound Production (Capstone)

This course will allow students to examine the multiple uses of radio as a broadcast medium in various entertainment and industry sectors. They will receive task-oriented training in pre, post, and
“on air” production jobs and competencies, current and emerging technologies, and the collaborative nature of the creative process involved

in radio production. In addition to “on air” performance techniques, students will examine the technological interface of sound, recording, audio switching, and computer modification involved in radio broadcast production.

7249 Advanced Multimedia Film/Video Production (Capstone)

This Capstone course for the Multimedia Production pathway examines the specific uses of film and video technology in various creative industry applications. Students will demonstrate advanced knowledge and skills in pre-production, production, and postproduction practices in an educational and work-based environment. Students will create film and/or video and sound products that demonstrate comprehensive knowledge of professional film and video and sound production.

Game Design and Integration (Pathway 114)

7260 Introduction to Game Design

This course introduces students to the rapidly developing field Game Design and production. They will explore current technologies, media and art applications, and emerging technological advances that impact this ever-expanding field. They will combine foundations in design, animation, graphic imaging, and multimedia production to prepare for employment, advanced training, or higher education in project or software design.

7261 Intermediate Game Design (Concentrator)

This course refines student skills and expands student knowledge in current technologies, media and art applications, and emerging technological advances that impact the game design field. Students will refine skills in design, animation, graphic imaging, coding and multimedia production to prepare for employment, advanced training, or higher education in project or software design. Students will explore other industry application including a mobile application design and technology

7262 Advance Game Design (Capstone)

This course will prepare students for entry level careers or continuing education in a particular area of game design. Students will use advanced skills to create collaborative projects, evaluate peer designs, and create a design portfolio and career plan.

BUILDING AND CONSTRUCTION TRADES SECTOR (BLD)

This sector provides a foundation in the Building and Construction Trades industry for secondary students in California. Students engage in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and skill preparation in the Building and Construction Trades industry. The sector encompasses four career pathways: Cabinetry, Millwork, and Woodworking; Engineering and Heavy Construction; Mechanical Systems Installation and Repair; and Residential and Commercial Construction. These pathways emphasize processes, systems, and the way in which structures are built. The knowledge and skills are acquired in a sequential, standards-based pathway program that integrates hands-on, project-based, and work-based instruction. Standards included in the Building and Construction Trades sector are designed to prepare students for technical training, postsecondary education, and entry to a career.

Multiple Pathways (Pathway 999)

7300 Introduction to Building and Construction Trades

This course provides students with an overview of the building and construction trades sector, which emphasizes processes, systems, and the way in which structures are built. It also provides students with insight into the different pathways available within the sector and the different career opportunities associated with each pathway.

Cabinetry, Millwork, and Woodworking (Pathway 120)

7310 Introduction to Cabinetry, Millwork, and Woodworking

This course introduces students to career opportunities within the sector and provides an overview of the planning, design, layout, and technical drawing interpretation for practical use in woodworking, cabinetmaking, and mill working. It may also cover different cabinet and furniture styles used, various wood products and materials, and proper tool selection. Students will be introduced to the different construction processes in the cabinetmaking, furniture making, and mill working industries.

7311 Intermediate Cabinetry, Millwork, and Woodworking (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students will gain competence in the planning, design, layout, and technical drawing interpretation for practical use in woodworking,

cabinetmaking, and mill working. They may learn about: furniture and cabinet styles, wood products and materials, finishes, countertops, and the use of laminates and veneers. They will gain competence in various construction processes in the cabinetmaking, furniture making, and mill working industries. They will demonstrate proper techniques for furniture building as well as cabinet and countertop construction and installation.

7312 Advanced Cabinetry, Millwork, and Woodworking (Capstone)

This course allows students to demonstrate mastery in skills attained in concentrator courses. This may include demonstrating competency in the planning, construction, and installation of furniture, cabinets, countertops, and/or other millwork products. Students will demonstrate competence in the design, layout, and technical drawing interpretation for practical use in woodworking, cabinetmaking, and mill working. They will demonstrate mastery of various construction processes by building and/or installing furniture, cabinets, countertops, or any number of millwork products.

Engineering and Heavy Construction (Pathway 121)

7320 Introduction to Engineering and Heavy Construction

This course will introduce students to career opportunities within the sector and provide an overview of heavy industrial construction and the way in which roads, highways and subdivisions are built. Students will learn the basics of construction equipment, operation, and safety. They may also be introduced to soil properties, surveying and mapping, grading and drainage, water and wastewater systems, and masonry.

7321 Intermediate Engineering and Heavy Construction (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students will learn about soil properties, survey and mapping, grading and drainage, and water and wastewater systems. They will also learn about basic concrete maintenance and repair, and heavy equipment use, operation, and safety standards. Students may also learn about project management for heavy construction projects, internal and external impacts on the construction industry, and how to recognize building phases, systems, and techniques.

7322 Advanced Engineering and Heavy Construction (Capstone)

This capstone course allows students to demonstrate mastery in skills attained in concentrator courses. Student may demonstrate mastery by: interpreting soil reports, performing a survey or mapping, operating

various heavy equipment in a safe manner, and/or mixing, pouring and finishing concrete. Students will demonstrate understanding of water and wastewater systems, the importance of safety rules and regulations, and knowledge of building codes and other applicable environmental laws and regulations as they relate to heavy construction projects. Students may also demonstrate understanding of project management procedures and processes as they relate to heavy construction projects.

Mechanical Systems Installation and Repair (Pathway 122)

7330 Introduction to Mechanical Systems Installation and Repair

This course will introduce students to career opportunities within the sector and provide an overview of the theories and concepts of heating, ventilation, air-conditioning (HVAC), refrigeration, and appliance installation, maintenance, and repair. Students will be introduced to basic electricity and electrical control systems. The pathway includes preparation for a Class C California License and EPA certification.

7331 Intermediate Mechanical Systems Installation and Repair (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students will learn to install, operate, test, repair, and maintain commercial and domestic heating and air-conditioning systems. Students may also learn how to operate, maintain, and repair such building systems as plumbing, electrical, and other mechanical systems. Students will learn to fabricate tubing, piping, and fittings to industry standards, and troubleshoot electrical control systems, motors, and their components. Students will develop skills that prepare them for a Class C California License and EPA certification.

7332 Advanced Mechanical Systems Installation and Repair (Capstone)

This course allows students to demonstrate mastery in skills attained in concentrator courses. Students will: fabricate tubing, piping, and fittings to industry standards; service or repair heating and/or air-conditioning systems; and troubleshoot electrical control systems, motors, and their components. Students will demonstrate understanding of: basic electricity; the basic components and concepts of heating, air-conditioning, and refrigeration; methods and devices used to improve air quality, and scientific theories and properties of heat and matter. They may also demonstrate practical knowledge of combustion heating systems.

Students may be prepared for a Class C California License and EPA certification.

Residential and Commercial Construction (Pathway 123)

7340 Introduction to Residential and Commercial Construction

This course will introduce students to career opportunities within the sector and focuses on the manner in which residential and commercial structures are designed and built. The course covers construction and building design, performance, and sustainability, the study of safety, hand and power tools, planning and design, applicable mathematics, blueprint reading, trade nomenclature, residential and commercial construction standards, construction manufacturing standards, and other specialized skills. The pathway includes preparation for a Class B California License.

7341 Intermediate Residential and Commercial Construction (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students will learn the impact of financial, technical, environmental, and labor trends on the construction industry. They will gain competence in mathematical calculations that are used in the trades, and interpret technical drawings and schedules. The course will cover techniques for proper site preparation and foundation layout. Students will gain competence in carpentry skills that prepare them to lay out, fabricate, erect, install and repair wooden structures and fixtures. Topics covered may also be: framing, installing drywall and interior/exterior finishes, building walls and partitions, and installing roof systems, floors and floor coverings, and electrical wiring. Students will learn to integrate and employ sustainable construction practices, and may develop skills that prepare them for a Class B California License.

7342 Advanced Residential and Commercial Construction (Capstone)

This course allows students to demonstrate mastery in skills attained in concentrator courses. Students will apply appropriate mathematical calculations, interpret technical drawings, and demonstrate techniques for proper site preparation and foundation layout. They will demonstrate carpentry techniques for the construction of a single-family residence, proper installation techniques of internal and external materials and finishes, employ sustainable construction practices, and install plumbing and electrical systems that adhere to industry standards. Students may be prepared for a Class B California License.

BUSINESS AND FINANCE SECTOR (FIN)

Persons trained in fields such as business management, international trade, and various financial services specialties (e.g., accounting, banking, and investing) will find that their skills are highly marketable. Students master basic business principles and procedures before proceeding to the career path specializations. The specializations emphasize concepts of accounting and finance, including computer applications, taxes, investments, and asset management as well as pathways in international business and business management. Because almost every business and organization have a financial and management component, students will find that opportunities exist in many career paths in addition to those in business and finance.

Multiple Pathways (Pathway 999)

7400 Introduction to Business and Finance

This course introduces students to key business concepts found in the Business Management, Financial Services, and International Business pathways. Students are introduced to the financial world and develop financial literacy through the study of income and wealth; financial institutions; how businesses raise capital; and study key investment-related terms and concepts. Students learn key concepts for managerial accounting, including manufacturing and cost accounting and budgeting. Students develop an understanding of how and why businesses choose to expand operations into other countries. Students examine careers in business, both as employees and as business owners.

Business Management (Pathway 182)

7410 Intermediate Business Communication Technologies (Concentrator)

This course provides an in-depth, hands-on introduction to business technologies used for business communication. Topics include communication through digital documents, presentations, data computation and presentation, as well as how to represent themselves through digital media to society. This course applies the principles of ethical and effective communication in the creation of business letters, memos, emails, as well as written and oral reports for a variety of business situations. Concepts taught in this course will satisfy local computer literacy requirements and prepares individuals to create business correspondence, reports, publications, and forms by using computer operating systems; word processing; database, spreadsheet, and desktop publishing software; hardware and peripherals. Related topics in this course include human relationships and effective communication, issue analysis, decision-making and problem-solving, leadership qualities and styles, and ensuring successful teamwork.

7411 Intermediate Business Management Technologies (Concentrator)

This course provides a comprehensive overview of the technologies present in today's business environment. Students are exposed to business practices that streamlines and promotes more effective operations. Students will understand how computer hardware and software are used to solve business problems and create business opportunities using entrepreneurship skills. Students will learn how the Internet was developed and how it is used today gaining an understanding of basic information technology protocols and the basics of connectivity in a global environment. Students will learn how to install and use common Web browsers and how to configure common browser preferences, including fonts, home pages, history, browser cache, image loading, bookmarks/favorites and security settings. Students will learn about Multimedia on the Web and how to install and upgrade common plug-ins, add-ons and applications. Students will understand the importance of computer security and understand how Virus, Worms, Trojans, Spyware, and illicit servers can affect computers and business networks.

7412 Advanced Business Management Enterprise and Project Management (Capstone)

This course prepares students to perform marketing and management functions and tasks associated with starting, owning, and operating a business. Students learn the principles and methods of organizing a

business firm and for combining resources to produce goods and services, taking account of costs, profits, and the nature and extent of competition in markets. This course describes management functions and project management skills, project life cycle and project triangle as they are used to accomplish organizational goals. Program content addresses organizational theory; human resource development; management principles and styles; policy and strategy formation; production and operations management, planning and development; and economic theory and practice. Students are provided work-based learning opportunities and opportunities to obtain industry certification to demonstrate their mastery of career-ready skills.

Financial Services (Pathway 180)

7420 Intermediate Financial Services and Banking (Concentrator)

This course introduces students to the financial world through the study of income and wealth; financial institutions; how businesses raise capital; and study key investment-related terms and concepts. Students learn the history of how banking practices evolved and how businesses operate, grow, and thrive in our ever-changing world. This course includes principles on how to make good personal financial decisions and will cover major functions of financial institutions. Related topics in this course include modern trends in the finance industry, credit functions, loan creation, debt collection, and stocks and bonds. Students will learn the importance of integrity and professional ethics in business relationships; and the tools effective leaders use to instill an ethical workplace culture.

7421 Intermediate Financial Services Management and Business Economics (Concentrator)

This course discusses the economy and the factors that influence the success of businesses and products. Students will understand the roles of citizens, workers and consumers and the importance of planning, organizing, and controlling the monetary resources of a business. This course describes forms of business ownership, discusses the relationship of labor and business, and applies techniques for managing human resources to maximize operational efficiencies and effectiveness. Students will demonstrate characteristics of professionalism in working relationships with customers and employees. This Course integrates economic principals with entrepreneurship/business concepts.

7422 Advanced Financial Services Business Accounting (Capstone)

This course provides students with an understanding of how accounting processes are used to provide important financial information to internal and external stakeholders. Student apply the accounting cycle for both a service and merchandising business through closing the books for a sole proprietorship, partnership, and corporation; select and use appropriate computer hardware and software to develop, process, and maintain accounting records and create reports. Students complete accounting simulations and business case studies and analyze revenue streams and revenue forecasting. Related topics include: subsidiary ledgers, financial statements, asset acquisition and disposition, depreciation methods, flexible budgets, and capital budgeting decisions. Students are provided work-based learning through professional organizations like the American Institute of CPAs (certified public accountants) and earn industry certifications to demonstrate their mastery of career-ready skills.

International Business (Pathway 181)

7430 Intermediate International Business (Concentrator)

This course provides an in-depth, hands-on introduction to business technologies used for business communication. Topics include communication through digital documents, presentations, data computation and presentation, as well as how to represent themselves through digital media to society. This course applies the principles of ethical and effective communication in the creation of business letters, memos, emails, as well as written and oral reports for a variety of business situations. Concepts taught in this course will satisfy local computer literacy requirements and prepares individuals to create business correspondence, reports, publications, and forms by using computer operating systems; word processing; database, spreadsheet, and desktop publishing software; hardware and peripherals. Related topics in this course include human relationships and effective communication across cultures, issue analysis, decision-making and problem-solving, leadership qualities and styles, and ensuring successful teamwork.

7431 Intermediate International Business Communications (Concentrator)

This course provides an in-depth, hands-on introduction to business technologies used for business communication. Topics include communication through digital documents, presentations, data computation and presentation, as well as how to represent themselves through digital media to society. This course applies the principles of

ethical and effective communication in the creation of business letters, memos, emails, as well as written and oral reports for a variety of business situations. Concepts taught in this course will satisfy local computer literacy requirements and prepares individuals to create business correspondence, reports, publications, and forms by using computer operating systems; word processing; database, spreadsheet, and desktop publishing software; hardware and peripherals. Related topics in this course include human relationships and effective communication across cultures, issue analysis, decision-making and problem-solving, leadership qualities and styles, and ensuring successful teamwork.

7432 Advanced International Business Enterprise (Capstone)

This course prepares students to perform marketing and management functions and tasks associated with starting, owning, and operating an international business. Students learn the principles and methods of organizing a business firm and for combining resources to produce and import and export goods and services, taking account of costs, profits, and the nature and extent of competition in markets. This course describes management functions and project management skills, project life cycle and project triangle as they are used to accomplish organizational goals. Program content addresses organizational theory; human resource development; management principles and styles; policy and strategy formation; production and operations management, planning and development; and economic theory and practice. Students are provided work-based learning opportunities to work with international organizations and opportunities to obtain industry certification to demonstrate their mastery of career-ready skills.

EDUCATION, CHILD DEVELOPMENT, & FAMILY SERVICES SECTOR (EDU)

The Education, Child Development, and Family Services sector provides students with the academic and technical preparation to pursue high-skill, high-demand careers in these related and growing industries. The sector encompasses four distinct, yet interrelated, career pathways:
Child Development, Consumer Services, Education, and Family and Human Services. The Child Development pathway provides students with the skills and knowledge they need to pursue careers in child care and related fields, and the Education pathway emphasizes the preparation of students to become teachers. The Consumer Services pathway gives students the employment and management skills needed in careers that involve helping consumers. The Family and Human Services pathway provides

students with skills needed for careers related to family and social services. The standards are designed to integrate academic and career technical concepts. The anchor standards include Consumer and Family Studies comprehensive technical knowledge and skills that prepare students for learning in the pathways. The knowledge and skills are acquired within a sequential, standards-based pathway program that integrates hands-on projects, work-based instruction, and leadership development—for example, through Family, Career and Community Leaders of America (FCCLA). Standards in the Education, Child Development, and Family Services sector are designed to prepare students for technical training, postsecondary education, and entry to a career.

Multiple Pathways (Pathway 999)

7500 Introduction to Education, Child Development, and Family Services

This introductory course for the Education, Child Development, and Family Services sector is the first in a sequence of courses that provides instruction in the eight content areas of Family and Consumer Sciences. The focus is on preparing students for personal and life management, and providing a strong foundation for Family and Consumer Sciences education related career paths. Instruction in the content areas of child development and guidance; consumer education; family and human development; education; fashion, textiles, and apparel; food and nutrition; housing and furnishings; individual and family health; and leadership is designed to prepare students with the knowledge, skills, and attitudes to function effectively as family members, leaders, workers, and citizens.

CHILD DEVELOPMENT (Pathway 130)

7510 Intermediate Child Development (Concentrator)

This concentration course prepares students to understand children's physical, mental, emotional, and social growth and development, as well as provide for their care and guidance. Instruction includes prenatal developments; research theories in human growth and development from prenatal stages of development to puberty and beyond; inherited characteristics; health and safety; guidance and discipline; cultural diversity; child abuse and neglect; and children with special needs. This course provides a solid foundation for any career that involves working with children, including child care and education.

7511 Advanced Child Development (Capstone)

This capstone course prepares students for employment in the care and guidance of young children under the supervision of professional

personnel. Instruction includes child and growth and development; nutrition; program planning and management; health and safety; guidance; recreational and play activities; child abuse and neglect; developmentally appropriate practices; interpersonal relationships; regulations; operational procedures; emergency and disaster procedures; policies, standards, and licensing; supervision and maintenance of children's environments; professionalism; and classroom management.

CONSUMER SERVICES (Pathway 131)

7520 Intermediate Consumer Services (Concentrator)

This concentration course prepares students to understand, analyze, manage, and maintain values, needs, wants, goals and resources, in order to make decisions that contribute to personal, family, and work life. Instruction includes decision making; earning an income, taxes, money management, financial planning, family economics, understanding the marketplace, selling methods, retail information; consumer rights and responsibilities, managing credit; housing decisions, equipment selection, energy saving techniques; the consumer as part of the national and global economy; and the organization of activities in the home as a means of successfully combining work and family roles. This course provides the background needed in a variety of careers that involve consumer information and purchasing, financial literacy, as well as financial planning.

7521 Advanced Consumer Services (Capstone)

This capstone course prepares students for employment in occupations in personal and financial services; product development, test and demonstration; energy; environment; and consumer communications. Instruction includes comparison shopping; consumer laws and regulations; selection and use of products and equipment; demonstration of new products; energy conservation methods; preparation of materials for publication, broadcast or telecast; interpretation of consumer needs to manufacturers, and methods of responding to customer inquiries. Students develop skills to process mail and phone orders; prepare reports; use industry technology; set up and arrange displays; determine customer needs and wants; select merchandise and products; and assist clients in the selection of services.

EDUCATION (Pathway 132)

7530 Intermediate Education (Concentrator)

This concentration course prepares students for professional or learning support positions in education, prekindergarten through grade twelve. Students study human development; standards, regulations, and codes; positive guidance and counseling techniques; age-appropriate and grade appropriate learning strategies; learning theories; and standards-based curriculum and instructional design.

7531 Advanced Education (Capstone)

This capstone course builds on concentration course content and is the final course taken in the Education pathway sequence. Students are prepared for a career or further postsecondary training. Students can apply and practice their knowledge and skills at a variety of elementary and secondary education sites.

FAMILY AND HUMAN SERVICES (Pathway 133)

7540 Intermediate Family and Human Services (Concentrator)

This concentration course prepares students to understand the basis, function, and significance of the interpersonal and family relations, human development, and individual needs throughout the life cycle. Instruction includes the meaning of family; quality relationships; love and commitment; marriage; major life adjustments; and parenting. Other topics of instruction can be good health habits; positive mental attitudes; management of stress; good nutrition; body systems; substance use and abuse; managing manipulation; relationships; pregnancy; diseases and infections; safety and emergency care; maintaining a healthy environment; values; goals; decision-making; interpersonal relationships and communication skills; and managing personal and family crisis. This course provides the needed background for a variety of careers involved with assisting in the care of children and family, family and human services, as well as the elderly.

7541 Advanced Family and Human Services (Capstone)

This concentration course expands on the comprehensive core and prepares students to understand the principles of personal and family health care and the importance of responsible behavior. Instruction includes good health habits, positive mental attitudes, management of stress, good nutrition, body systems, substance use and abuse, family life,

managing manipulation, relationships, pregnancy, diseases and infections, safety and emergency care and maintaining a healthy environment. This course may meet a local health requirement and provides a solid background for home economics-related careers.

ENERGY, ENVIRONMENT, AND UTILITIES SECTOR (NRG)

This sector is designed to provide a foundation of knowledge and skills in careers related to energy, environment, and utilities. The pathways emphasize real-world, occupationally relevant knowledge, skills, and experiences of significant scope and depth in Environmental Resources, Energy and Power Technology, and Telecommunications. The standards integrate academic and technical preparation and focus on career awareness, career exploration, preparation for entry to technical-level employment, and alignment with postsecondary programs focused on energy, utilities, and related fields.

Multiple Pathways (Pathway 999)

7600 Introduction to Energy, Environment, and Utilities

This course provides students with an overview of the energy, environment and utilities sector, focuses on the principles of power and energy, and emphasizes sustainability practices and processes. It provides students with insight into the different pathways available within the sector and the different career opportunities associated with each pathway.

Environmental Resources (Pathway 141)

7610 Introduction to Environmental Resources

This course will introduce students to career opportunities within the sector and provides an overview of the principles of power and energy, alternative/green/sustainable technologies, and the fundamentals of electrical power systems. It may also introduce students to the principles, concepts, and operations of residential and commercial energy and utilities industries.

7611 Intermediate Environmental Resources (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students will explore basic conventional and emerging principles and concepts of the energy industry, including energy production, energy transmission, and alternative energy technologies. The course may also cover nuclear and non-nuclear power generation technologies, their fuel sources, and plant operations (including: coal, oil,

natural gas, solar, wind, geothermal power, hydroelectric, or biofuel). Students may learn research methods of energy procurement, transmission, distribution, and storage, and gain an understanding of interrelationships among components of electrical systems.

7612 Advanced Environmental Resources (Capstone)

This capstone course allows students to demonstrate mastery in skills attained in concentrator courses. Students will demonstrate understanding of the conventional and emerging principles and concepts of the energy industry, including energy production, energy transmission, and alternative/green/sustainable/renewable energy technologies. They will demonstrate understanding of the different types of electric power generation technologies and their fuel sources, the advantages and disadvantages of each, and their effect on the environment. Student may demonstrate mastery by explaining the components of electrical systems, the fission process, principles of biomass conversion, nuclear power generation; summarizing the basic operating principles of fossil, hydroelectric, and internal combustion systems; or being able to explain and apply Ohm's Law.

Energy and Power Technology (Pathway 143)

7620 Introduction to Energy and Power Technology

This course will introduce students to career opportunities within the sector and provides an overview of emerging energy and environmental technologies, such as include solar, wind, nuclear, renewable and non-renewable energy sources, and the associated environmental issues and societal response.

7621 Intermediate Energy and Power Technology (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students gain a deeper understanding of the science and technology of current and future energy sources along with the associated environmental problems and societal response. The course may cover concepts and principles of environmental resources, the role of law and policy in regulation and management of natural resources and the environment, and water and land use, including efficiency, quality, scarcity, and waste management.

7622 Advanced Energy and Power Technology (Capstone)

This capstone course allows students to demonstrate mastery in skills attained in concentrator courses. Students will demonstrate

understanding of: energy resources and their effects on the environment; global interactive systems and elements that create and sustain climate; land use, air quality, and drinking water management systems, and their potential for environmental impact; storm water, rivers, and groundwater systems, and environmental legislation and regulations. Student may demonstrate mastery by evaluating regional interactive systems and elements that create harmful environmental effects, identifying the role and impact of waste management systems, implementing processes to support energy efficiency, and/or preparing an efficient solar heated water design and installation plan.

Telecommunications (Pathway 142)

7630 Introduction to Telecommunications

This course will introduce students to career opportunities and provide an overview of basic telecommunications principles and concepts. It may also examine the role and function of satellites, explore privacy and security issues, and examine the differences between fixed-wire and wireless telecommunications systems.

7631 Intermediate Telecommunications (Concentrator)

This course will build on foundational skills attained in the introductory course(s). Students will learn the basic and emerging technologies in the telecommunications industry and further examine the role and functions of satellites in telecommunications. Topics covered may also include: researching the components, interaction, and operations of fixed-wire and wireless telecommunications systems, and privacy and security issues related to telecommunications systems.

7632 Advanced Telecommunications (Capstone)

This capstone course allows students to demonstrate mastery in skills attained in concentrator courses. Students will demonstrate understanding of the basic and emerging technologies in the telecommunications industry and the role and functions of satellites in telecommunications. They may also demonstrate understanding of the components, interaction, and operations of fixed-wire and wireless telecommunications systems, privacy and security issues, and proficiency in customer relations within the telecommunications industry.

ENGINEERING AND ARCHITECTURE SECTOR (ENG)

This sector is designed to provide a foundation in engineering and architecture sector pathways and occupations for students in California. Students are engaged in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and career preparation in four pathways that emphasize real-world, occupationally relevant experiences of significant scope and depth: Architectural Design; Engineering Technology; Engineering Design; and Environmental Engineering. To prepare students for continued training, advanced educational opportunities, and direct entry to a career, the Engineering and Architecture programs offer the following components: classroom, laboratory, and hands-on contextual learning; project- and work-based instruction; and leadership and interpersonal skills development.

Multiple Pathways (Pathway 999)

7700 Introduction to Engineering and Architecture

This introduction course provides students with the foundational concepts required for pursuing career pathways within this industry sector. The skills and content knowledge help prepare students to continue their education in multiple pathway concentrator courses within this industry sector.

Architectural Design (Pathway 150)

7710 Intermediate Architectural Design (Concentrator)

This concentrator course builds upon the Engineering and Architecture introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in Architectural Design career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Architectural Design pathway's sequence of courses.

7711 Advanced Architectural Design (Capstone)

This capstone course further builds upon the Engineering and Architecture introduction course, and is the final course taken. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

Engineering Technology (Pathway 153)

7720 Intermediate Engineering Technology (Concentrator)

This concentrator course builds upon the Engineering and Architecture introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in Engineering Technology career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Engineering Technology pathway's sequence of courses.

7721 Advanced Engineering Technology (Capstone)

This capstone course further builds upon the Engineering and Architecture introduction course, multiple pathway concentrator courses, and is the final course taken which prepares students to work and pursue further education in multiple career pathways. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

Engineering Design (Pathway 152)

7730 Intermediate Engineering Design (Concentrator)

This concentrator course builds upon the Engineering and Architecture introduction course and provides students with additional concepts and experiences required for career readiness and to pursue further education in the Engineering Design career pathway. This concentrator course leads to the capstone course in the Engineering Design pathway's sequence of courses.

7731 Advanced Engineering Design (Capstone)

This capstone course further builds upon the Engineering and Architecture introduction course, and Engineering Design pathway concentrator course/s, in this sector. The capstone is the final course taken in the complete sequence of courses. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

Environmental Engineering (Pathway 154)

7740 Intermediate Environmental Engineering (Concentrator)

This concentrator course builds upon the Engineering and Architecture introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in Environmental Engineering career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Environmental Engineering pathway's sequence of courses.

7741 Advanced Environmental Engineering (Capstone)

This capstone course further builds upon the Engineering and Architecture introduction course and concentrator course/s, in this sector. The capstone is the final course taken in the complete sequence of courses. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

FASHION AND INTERIOR DESIGN SECTOR (FSN)

The Fashion and Interior Design sector provides students with the academic and technical preparation necessary to pursue high-skill, high-demand careers in these related and growing industries. The sector encompasses three distinct career pathways: Fashion Design and Merchandising, Interior Design, and Personal Services. The standards are designed to integrate academic and career technical concepts. The anchor standards include Consumer and Family Studies comprehensive technical knowledge and skills that prepare students for learning in the pathways. The knowledge and skills are acquired within a sequential, standards-based pathway program that integrates hands-on projects, work-based instruction, and leadership development such as that offered through Family, Career and Community Leaders of America (FCCLA). Standards in this sector are designed to prepare students for technical training, postsecondary education, and entry to a career.

Multiple Pathways (Pathway 999)

7800 Introduction to Fashion and Interior Design

This introductory course for the Fashion and Interior Design sector is the first in a sequence of courses that provides instruction in the eight content areas of Family and Consumer Sciences. The focus is on preparing

students for personal and life management, and providing a strong foundation for Family and Consumer Sciences education related career paths. Instruction in the content areas of child development and guidance; consumer education; family and human development; education; fashion, textiles, and apparel; food and nutrition; housing and furnishings; individual and family health; and leadership is designed to prepare students with the knowledge, skills, and attitudes to function effectively as family members, leaders, workers, and citizens.

Fashion Design and Merchandising (Pathway 160)

7810 Intermediate Fashion Design and Merchandising (Concentrator)

This concentration course expands on the comprehensive core and prepares students to understand the social, psychological, physiological and design aspects of fashion, textiles, and apparel. Instruction includes apparel and behavior; elements and principles of design; color theory, wardrobe planning, history of apparel, specialized clothing, wardrobe budgets, retail options, textiles, garment care, alterations, personal and family clothing selection and purchase; design and construction of clothing, utilizing of advanced construction techniques; couture design elements; and modification of clothing to meet the special needs of individuals. This course is highly recommended for students interested in pursuing a career in the fashion industry.

7811 Advanced Fashion Design and Merchandising (Capstone)

This concentration course provides an in-depth study of advanced apparel design. Instruction includes personal and family clothing selection and purchase; design and construction of clothing, utilizing advanced construction techniques; couture design elements; and modification of clothing to meet the special needs of individuals. Emphasis is given to fashion design techniques. This course is highly recommended for students interested in pursuing a career in the fashion industry. Course titles may include: Introduction to Clothing; Apparel Construction; or Garment Design and Construction.

Interior Design (Pathway 161)

7820 Intermediate Interior Design (Concentrator)

This concentration course expands on the comprehensive core and prepares students to understand the physical, psychological, and social influences on complex housing decisions. The course includes the study of environmental concerns that impact housing, such as conservation of resources, materials, and construction technology, as well as the analysis of cultural, psychological, functional and aesthetic design concepts. Topics include design principles and elements; housing decisions; materials, furnishings, accessories, and equipment; color theory; space planning; textiles and finishes; landscaping; historical periods of architecture and furniture styles and the conditions that influenced them, and population trends. This course provides a background for a variety of careers in residential and commercial furnishings, interior design, and interior maintenance.

7821 Advanced Interior Design (Capstone)

This capstone course prepares students for employment in occupations concerned with furnishing and decorating residential and commercial properties. Instruction includes assisting purchasers in selecting and maintaining suitable furnishings and/or equipment; assisting interior designers, decorators or professional home service directors; selection of slipcovers, draperies, curtain and window treatments; upholstery; designing accessories as floral arrangements or decorations; designing space to address needs; the care and maintenance of residential and commercial floor surfaces, wall coverings, furnishings and equipment; and personal management.

Personal Services (Pathway 162)

Makeup Artistry (Sub-Pathway 162A)

7830 Intermediate Makeup Artistry (Level 1) (Concentrator)

This is the introductory/intermediate level course of a multi-level hour program (300 of 600 clock hours). The introductory course gives the students comprehensive career opportunities and introductory skills in

makeup artistry. Services in this level cover basic makeup applications, sanitation, color theory, skin conditions, health and safety of clients, product chemistry, and basic tools and equipment to perform services on clients for every day and special occasions, along with state laws/regulations.

7831 Advanced Makeup Artistry (Level 2) (Capstone)

This is the capstone or advanced course of a multi-level hour program (300 of 600 clock hours). In this advanced or capstone course students will learn advanced techniques, products, and equipment for makeup applications for fashion, specialty, high definition, photography, theatrical or stage, special effects for film/TV makeup applications. Prerequisite: A grade of “C” or better in Introductory Make Artistry (Level 1).

Barbering (Sub-Pathway 162B)

Note: Bolded language in the following descriptions represents California requirements.

7832 Introduction to Barbering

This is the Intro level course of a multi-level hour program (180 of 1500 clock hours). This introductory course gives the students a comprehensive career opportunities and industry skills into barbering within this pathway. Students will learn state laws/regulations, basic barbering concepts, health/safety regulations, licensing requirements for California, tools, products, and equipment used in barbering services.

7833 Intermediate Level 2 Barbering (Concentrator)

This course continues with the multi-level hour program (360 of 1500 clock hours). In this intermediate level 2 course students will continue to learn the theoretical and practical skills needed in barbering through the equipment, products, and techniques. Chemistry, haircutting, chemical services, shaving, and other components will be covered. Prerequisite: A grade of “C” or better in the Intro to Barbering.

7834 Intermediate Level 2 Barbering (Concentrator)

This course continues with the multi-level hour program (540 of 1500 clock hours). In this concentrator level 3 course students will continue to develop and advance their skills in the practicum of barbering skills with

tools, equipment, and products. Continued theoretical concepts in Barbering and preparing for state board licensure in California will be covered. Prerequisite: A grade of “C” or better in the Intermediate – Level 2 Barbering.

7835 Advanced Level 4 Barbering (Capstone)

This is the capstone or advanced level 4 course in the multi-level hour program (540 of 1500 clock hours) Students will prepare for state board licensure examination in California through theoretical and applied skills in hair styles, cutting, chemical services (i.e., bleaching, color, perms, and relaxers), facial care including shaving, health and safety for clients, disinfection/sanitation, and more for real world barbering skills. Prerequisite: A grade of “C” or better is the Concentrator – Level 3 Barbering.

Cosmetology (Sub-Pathway 162C)

Note: Bolded language in the following descriptions represents California requirements.

7836 Introduction to Cosmetology

This is the Intro level course of a multi-level hour program (180 of 1600 clock hours). This introductory course gives the students a comprehensive career opportunities and industry skills into cosmetology within this pathway. Students will learn state laws/regulations, basic cosmetology concepts, health/safety regulations, licensing requirements for California, tools, products, and equipment used in cosmetology services.

7837 Intermediate Level 2 Cosmetology (Concentrator)

This course continues with the multi-level hour program (360 of 1600 clock hours). In this intermediate level 2 course students will continue to learn the theoretical and practical skills needed in cosmetology through the equipment, products, and techniques. Chemistry, haircutting, chemical services, shaving, and other components will be covered. Prerequisite: A grade of “C” or better in the Intro to Cosmetology.

7838 Intermediate Level 3 Cosmetology (Concentrator)

This course continues with the multi-level hour program (540 of 1600 clock hours). In this concentrator level 3 course students will continue to develop and advance their skills in the practicum of cosmetology skills with tools, equipment, and products. Continued theoretical concepts in Cosmetology and preparing for state board licensure in California will be covered. Prerequisite: A grade of “C” or better in the Intermediate – Level 2 Cosmetology.

7839 Advanced Level 4 Cosmetology

This is the capstone or advanced level 4 course in the multi-level hour program (540 of 1600 clock hours) Students will prepare for state board licensure examination in California through theoretical and applied skills in hair styles, cutting, chemical services (i.e., bleaching, color, perms, and relaxers), facial care including waxing, health and safety for clients, disinfection/sanitation, and more for real world cosmetology skills. Prerequisite: A grade of “C” or better is the Concentrator – Level 3 Cosmetology.

Manicuring (Sub-Pathway 162D)

Note: Bolded language in the following descriptions represents California requirements.

7840 Intermediate Level 1 Manicuring (Concentrator)

This is the Intro level course of a multi-level hour program (150 of 400 clock hours). The introductory course gives the students a comprehensive career opportunities and introductory skills in manicuring or nail technology. Services in this level cover basic manicuring, pedicures, sanitation, color theory, nail conditions, health and safety of clients, product chemistry, and basic tools and equipment to perform services on clients for every day and special occasions, including state laws/regulations for licensure preparation.

7841 Advanced Level 2 Manicuring (Capstone)

This is the capstone or advanced course of a multi-level hour program (300 of 400 clock hours). In this advanced or capstone course students will learn advanced techniques, products, and equipment for manicuring or nail technology in natural and artificial nail applications for fashion, specialty, high definition, photography, theatrical or stage, special effects for film/TV makeup applications. Prerequisite: A grade of “C” or better in Introductory Manicuring (Level 1).

HEALTH SCIENCE AND MEDICAL TECHNOLOGY SECTOR (HLT)

The standards in this sector represent the academic and technical skills and knowledge students need to pursue a full range of career opportunities in health science and medical technology, from entry level to management as well as technical and professional career specialties. The standards describe what workers need to know and be able to do to contribute to the delivery of safe and effective health care. The six career pathways are grouped into functions that have a common purpose and require similar attributes. The pathways are Biotechnology, Patient Care, Health Care Administrative Services, Health Care Operational Support Services, Public and Community Health, and Mental and Behavioral Health. Standards for each career path build on and continue the anchor standards with more complexity, rigor, and career specificity.

Multiple Pathways (Pathway 999)

7900 Introduction to Health Science and Medical Technology

This Exploratory/Introduction to Health Science and Medical Technology course provides students with the awareness of a variety of career options examining careers that work diagnostic, supportive, and therapeutic services and the requirements to achieve their career goals. Exploratory courses provide the foundational concepts in which students can begin to form future career choices that meet their individual career interest. Students are exposed to the general requirements for various careers in the healthcare field. Exploratory courses provide the basic experiences and activities that will set a foundation for entry into any one of the Health Science and Medical Technology pathways at introductory level courses.

Biotechnology (Pathway 196)

7910 Introduction to Biotechnology

This introductory course is designed to provide students the necessary foundational technical skills of Health Sciences and integrated subject matter in science, mathematics, and English/language arts required to move to advanced curriculum and content in Health Science and Medical Technology. Student will have the opportunity to experience a variety of options leading to the broad career selection of a specific pathways with in Health Science and Medical Technology. Students will learn about the use of living systems and organisms to develop or make products, or "any technological application that uses biological systems, living organisms or derivatives thereof, to make or modify products or processes for specific use in Biotechnology.

7911 Intermediate Biotechnology (Concentrator)

This concentrator course is designed to provide students specific content knowledge and skills within the Biotechnology pathway. Courses are aligned to the basic knowledge levels necessary to learn and recognize word roots, prefixes, and suffixes used in medical language, understand the prevention, wellness, and disease process, and the associated skill application consistent with the Biotechnology pathways scope and practice in either direct or indirect client/patient services including short term certifications such as cardiopulmonary resuscitation, and automated external defilation.

7912 Advanced Biotechnology (Capstone)

This capstone course prepares students within a specific career in the various areas of Biotechnology that will enable them to complete the requirements for licensure, certification, or other industry recognized credentials; or students are prepared to enter into postsecondary education or training programs in the selected Biotechnology pathway. If applicable, course content will provide the knowledge and skills consistent with legislative requirements and the level of proficiency to perform skills within their identified scope of practice specific to employment.

CDE Course Codes Realignment 2021-22

Patient Care (Pathway 198)

7920 Introduction to Patient Care

This Introductory course is designed to provide students the necessary foundational technical skills of Health Sciences and integrated subject matter in science, mathematics, and English/language arts required to move to advanced curriculum and content in Health Science and Medical Technology. Students have the opportunity to experience a variety of options leading to the broad career selection of a specific pathways with in Health Science and Medical Technology. Student will be introduced to the requirements of working in patient care careers, understanding all aspects of the interactions and responsibilities in working with people in diagnostic and therapeutic areas of health care.

7921 Intermediate Patient Care (Concentrator)

This concentrator course is designed to provide students specific content knowledge with industry skills and leadership development within the Patient Care pathway. Courses are aligned to the basic knowledge levels necessary to learn and recognize word roots, prefixes, and suffixes used

in medical language, understand the prevention, wellness, and disease process, and the associated skill application consistent with the Patient Care pathways scope and practice in either direct or indirect client/patient services including short term certifications such as cardiopulmonary resuscitation, and automated external defilation.

7922 Advanced Patient Care (Capstone)

This capstone course prepares students within a specific career in the various areas of patient care that will enable them to complete the requirements for licensure, certification, or other industry recognized credentials; or students are prepared to enter into postsecondary education or training programs in the selected Patient Care pathway. If applicable, course content will provide the knowledge, industry skills and leadership development consistent with legislative requirements and the level of proficiency to perform skills within their identified scope of practice specific to employment.

Healthcare Administrative Services (Pathway 250)

7930 Introduction to Healthcare Administrative Services

This introductory course is designed to provide students the necessary foundational technical skills of Health Sciences and integrated subject matter in science, mathematics, and English/language arts required to move to advanced curriculum and content in Health Science and Medical Technology. Student will have the opportunity to experience a variety of options leading to the broad career selection of a specific pathways with in Health Science and Medical Technology. Students will be exposed to the knowledge and skills necessary to communicate health/medical information accurately within legal/regulatory bounds, information coding and systems, health care operations and human resources.

7931 Intermediate Healthcare Administrative Services (Concentrator)

This concentrator course is designed to provide students specific content knowledge and skills within the Healthcare Administrative Services pathway. Courses are aligned to the basic knowledge levels necessary to learn and recognize word roots, prefixes, and suffixes used in medical language, understand the prevention, wellness, and disease process, and the associated skill application consistent with the Healthcare Administrative Services pathways scope and practice in either direct or indirect client/patient services including short term certifications such as cardiopulmonary resuscitation, and automated external defilation.

7932 Advanced Healthcare Administrative Services (Capstone)

This capstone course prepares students within a specific career in the various areas of Healthcare
Administrative Services that will enable them to complete the requirements for licensure, certification, or other industry recognized credentials; or students are prepared to enter into postsecondary education or training programs in the selected Healthcare Administrative Services pathway. If applicable, course content will provide the knowledge and skills consistent with legislative requirements and the level of proficiency to perform skills within their identified scope of practice specific to employment.

Healthcare Operational Support Services (Pathway 197)

7940 Introduction to Healthcare Operational Support Services

This introductory course is designed to provide students the necessary foundational technical skills of Health Sciences and integrated subject matter in science, mathematics, and English/language arts required to move to advanced curriculum and content in Health Science and Medical Technology. Student will have the opportunity to experience a variety of options leading to the broad career selection of a specific pathways with in Health Science and Medical Technology. Students will learn about supportive services occurring in hospital, clinics and other healthcare delivery facilities that include healthy and safe physical environmental services, infection prevention processes and technology, quick and efficient transports, equipment maintenance, materials, and food services.

7941 Intermediate Healthcare Operational Support (Concentrator)

This concentrator course is designed to provide students specific content knowledge and skills within the Healthcare Operational Support pathway. Courses are aligned to the basic knowledge levels necessary to learn and recognize word roots, prefixes, and suffixes used in medical language, understand the prevention, wellness, and disease process, and the associated skill application consistent with the Mental and Behavioral Health pathways scope and practice in either direct or indirect client/patient services including short term certifications such as cardiopulmonary resuscitation, and automated external defilation.

7942 Advanced Healthcare Operational Support (Capstone)

This capstone course prepares students within a specific career in the various areas of Healthcare Operational Support that will enable them to complete the requirements for licensure, certification, or other industry recognized credentials; or students are prepared to enter into postsecondary education or training programs in the selected Healthcare Operational Support pathway. If applicable, course content will provide the knowledge and skills consistent with legislative requirements and the level of proficiency to perform skills within their identified scope of practice specific to employment.

Public and Community Health (Pathway 199)

7950 Introduction to Public and Community Health

This introductory course is designed to provide students the necessary foundational technical skills of Health Sciences and integrated subject matter in science, mathematics, and English/language arts required to move to advanced curriculum and content in Health Science and Medical Technology. Student will have the opportunity to experience a variety of options leading to the broad career selection of a specific pathways with in Health Science and Medical Technology. Student will be introduced to understand the science and art of preventing disease, prolonging life and promoting health through organized efforts, informed choices of society, organizations, public and private, communities and individuals. Public heal occupations look at the concerns and threats to health based on population health analysis.

7951 Intermediate Public and Community Health (Concentrator)

This concentrator course is designed to provide students specific content knowledge and skills within the Public and Community Health pathway. Courses are aligned to the basic knowledge levels necessary to learn and recognize word roots, prefixes, and suffixes used in medical language, understand the prevention, wellness, and disease process, and the associated skill application consistent with the Public and Community Health pathways scope and practice in either direct or indirect client/patient services including short term certifications such as cardiopulmonary resuscitation, and automated external defilation.

7952 Advanced Public and Community Health (Capstone)

This capstone course provides students within a specific career in the various areas of Public and Community Health that will enable them to complete the requirements for licensure, certification, or other industry recognized credentials; or students are prepared to enter into postsecondary education or training programs in the selected Public and Community Health pathway. If applicable, course content will provide the knowledge and skills consistent with legislative requirements and the level of proficiency to perform skills within their identified scope of practice specific to employment.

Mental and Behavioral Health (Pathway 195)

7960 Introduction to Mental and Behavioral Health

This introductory course is designed to provide students the necessary foundational technical skills of Health Sciences and integrated subject matter in science, mathematics, and English/language arts required to move to advanced curriculum and content in Health Science and Medical Technology. Student will have the opportunity to experience a variety of options leading to the broad career selection of a specific pathways with in Health Science and Medical Technology. Student will be introduced to the requirements of working in mental and behavioral health occupations, understanding, diagnosis and treatment of an individual's emotional, psychological, and social aspect of maintaining and or achieving wellness.

7961 Intermediate Mental and Behavioral Health (Concentrator)

This concentrator course is designed to provide students specific content knowledge and skills within the Mental and Behavioral Health pathway. Courses are aligned to the basic knowledge levels necessary to learn and recognize word roots, prefixes, and suffixes used in medical language, understand the prevention, wellness, and disease process, and the associated skill application consistent with the Mental and Behavioral Health pathways scope and practice in either direct or indirect client/patient services including short term certifications such as cardiopulmonary resuscitation, and automated external defilation.

7962 Advanced Mental and Behavioral Health (Capstone)

This capstone course prepares students within a specific career in the various areas of Mental and Behavioral Health that will enable them to complete the requirements for licensure, certification, or other industry recognized credentials; or students are prepared to enter into postsecondary education or training programs in the selected Mental and Behavioral Health pathway. If applicable, course content will provide the knowledge and skills consistent with legislative requirements and the level of proficiency to perform skills within their identified scope of practice specific to employment.

HOSPITALITY, TOURISM, AND RECREATION SECTOR (HOS)

The Hospitality, Tourism, and Recreation sector provides students with the academic and technical preparation necessary to pursue high-skill, high-demand careers in these related and growing industries. The sector encompasses three distinct, yet interrelated,

career pathways: Food Science, Dietetics, and Nutrition; Food Service and Hospitality; and Hospitality, Tourism, and Recreation. The standards are designed to integrate academic and career technical concepts. The anchor standards include Consumer and Family Studies comprehensive technical knowledge and skills that prepare students for learning in the pathways. The knowledge and skills are acquired within a sequential, standards-based pathway program that integrates hands-on projects, work-based instruction, and leadership development such as that offered through Family, Career and Community Leaders of America (FCCLA). Standards in this sector are designed to prepare students for technical training, postsecondary education, and entry to a career.

Multiple Pathways (Pathway 999)

8000 Introduction to Hospitality, Tourism, and Recreation

This introductory course in the Hospitality, Tourism, and Recreation sector is the first in a sequence of courses that provides instruction in the eight content areas of Family and Consumer Sciences. The focus is on preparing students for personal and life management, and providing a strong foundation for Family and Consumer Sciences education related career paths. Instruction in the content areas of child development and guidance; consumer education; family and human development; education; fashion, textiles, and apparel; food and nutrition; housing and furnishings; individual and family health; and leadership is designed to prepare students with the knowledge, skills, and attitudes to function effectively as family members, leaders, workers, and citizens.

Food Science, Dietetics, and Nutrition (Pathway 200)

8010 Intermediate Food Science, Dietetics, and Nutrition (Concentrator)

This concentration course includes instruction in researching information to evaluate an individual's diet, and adequacy of essential nutrients supplied in the diet; physiology and utilization of nutrients by the body; contribution of nutrients to general health; dietary needs during the life cycle; food regulations by government agencies; impact of additives, environmental contaminants, food-borne illnesses, food faddism and quackery; cultural factors in food choices; new food technology; and the chemical and biological relation of food. This course provides a strong background for nutritional science, dietetics, as well as careers related to the food industry.

8011 Advanced Food Science, Dietetics, and Nutrition (Capstone)

This capstone course prepares students for employment in occupations in the food science and technology, dietetics, and nutrition industries. Instruction includes meeting nutritional and dietary needs; planning, selecting, purchasing and preparing of food to conserve nutrients; operational procedures; food safety and sanitation; using dietary and food guidelines to plan healthy diets; food preferences; data and statistics; and marketing. Students develop skills to utilize nutritional knowledge in preparing, inspecting, and serving meals to people with special counseling under the direction of a dietetic technician or professional dietitian; identifying qualities of various foods; collecting and testing food samples as directed; recording and comparing test results; purchasing and maintaining laboratory supplies and inventory.

Food Service and Hospitality (Pathway 201)

8020 Intermediate Food Service and Hospitality (Concentrator)

This concentration course prepares students to understand the scientific principles of nutrition, the relationship of nutrition to health and well-being, and also prepares students with food production, preparation, and service skills. Instruction includes topics such as finding nutritive food values; planning, selecting, storing, purchasing, preparing, testing, serving and selling of quality food and food products; nutrition and health; safety and emergencies; food safety and sanitation; meal management; food preparation; food purchasing; food in culture; the science of food and nutrition; food costs and production; and food technology. This course provides a solid background for a wide range of careers such as food service and hospitality, food science, dietetics, and nutrition.

8021 Advanced Food Service and Hospitality (Capstone)

This capstone course prepares students with food production, preparation, and service skills for employment institutional, commercial, or independently owned food establishments or other food and hospitality industry occupations. Instruction includes topics such as planning, selecting, storing, purchasing, preparing, testing, serving and selling of quality food and food products; nutritive values; safety and sanitation; use and care of commercial equipment; management of food establishments; cost and profitability analysis; side work and customer orders; and handling cash and credit transactions.

Hospitality, Tourism, and Recreation (Pathway 202)

8030 Intermediate Hospitality, Tourism and Recreation (Concentrator)

This concentration course prepares students for employment in occupations in hospitality, tourism, and recreation. Instruction includes providing hospitality services in diverse settings to meet the needs of a wide variety of clients; eco-tourism; guest services; geography of the continents; customs and culture of countries as tourist destinations; special documentation needed for international travel; planning events to client specifications; recreational opportunities related to onsite and off-site attractions; and environmental and ecological principles.

8031 Advanced Hospitality, Tourism and Recreation (Capstone)

This capstone course prepares students with the skills, attitudes, and knowledge needed for employment in the lodging industry, travel-related service occupations, and/or theme parks, attractions, outdoor recreation, and exhibitions and event-planning. Topics covered include lodging terminology; the history of lodging; marketing; property management; guest psychology and relationships; lodging operations; food and beverage services; convention services; business management; industry awareness and policies; security and emergency procedures; salesmanship and guest satisfaction; computer applications; geography; culture and customs; reservations and ticketing; travel itineraries; international travel; and technology used in the industry. Additional instruction could include trade shows, fairs, and conferences; outdoor recreation and management; financial transactions; tourism; client information and planning specialized events to include themes, timelines, budgets, target audiences, objectives, agendas and public relations related to support services within the lodging industry. This program provides a strong background for careers in Hospitality, Tourism, and Recreation, as well as Lodging and Hotel Operations, and/or Theme Parks, Attractions, and Events.

INFORMATION AND COMMUNICATION TECHNOLOGIES SECTOR (INF)

Information and Communication Technologies (ICT) pathways are constantly evolving. Based in computing operations, pathways focus on software, networking and cybersecurity, telecommunications, Internet of Things, programming, and information systems support. Essential skills for careers in the ICT sector include understanding systems that support the management and flow of data, problem solving, the ability to work well and communicate clearly with people, and the ability to manage projects efficiently. The ICT sector meets national criteria for high demand, high wages, and high

skills and provides students with excellent opportunities for interesting work and good pay.

Multiple Pathways (Pathway 999)

8100 Introduction to Information and Communication Technologies

This course provides students with foundational knowledge of programming and computer science. Students will explore topics of human computer interaction, problem solving, web design, computer programming, data modeling, and robotics. Throughout the course, students will understand the algorithmic underpinnings of computer applications and gain technical expertise using computational tools. Other areas of the sector could be introduced such as software design, networking, game design, information support, and topics like artificial intelligence, and robotics. Social issues in ICT will be introduced such as hacking and cybersecurity, social media usage and protecting personal information, the digital divide, open government data, and ethical computing. Course titles may also include: Exploring Computer Science, Introduction to Computer Science A; Computer Principles; Introduction to Information and Communication Technologies; Introduction to Computer Technologies.

Information Support and Services (Pathway 170)

8110 Introduction to Information Support Services

This course will introduce students to computer usage and functionality, operating systems, the main system components, network connectivity, software installation, data backup, troubleshooting, and system administration. The role of ICT in organizations and business processes using tools such as organizational charts, flowcharts, and timelines will be discussed. Client relations and communications will be introduced along with information gathering techniques, and critical thinking and listening as part of problem solving.

8111 Intermediate Information Support Services (Concentrator)

This course is project-based and designed to provide students with hands-on use of software applications while studying computer concepts such as accessing and transmitting information in a networked environment. Students will learn the processes associated with system administration and planning, acquiring, installing, and implementing of software and systems. Learning to work in teams in order to understand client needs, evaluate different possible solutions, pricing systems within

budget constraints, and understanding continual improvement cycles are goals.

8112 Advanced Information Support Services (Capstone)

This course allows students to demonstrate management and implementation of various information, technology, and communication projects. Projects could take the form of enterprise information security plans that include identifying vulnerabilities and deciding what methods to use to achieve cybersecurity. Other projects include developing user training programs to enable simple problem resolutions, help-desk programs, system life-cycle programs that include planning, purchasing, implementing, and integrating of systems for continual improvement.

Networking (Pathway 172)

8120 Introduction to Networking

This course introduces students to networking terminology and concepts as well as the principles of networking and various technologies, models, and protocols used in networking. Various types of network media and topologies will be introduced as well as network devices and their functions. Concepts covered include network standards of recognized organizations, Open System Interconnect (OSI) network layers, and transmission-control/internet protocol (TCP/IP) and the various network environments.

8121 Intermediate Networking (Concentrator)

This course allows students to perform hands-on tasking and planning for implementing network systems and/or subsystems after receiving safety training handling network hardware and power supplies. Students will evaluate networking tasks and select network components, media, and protocols to solve networking challenges. Other skills learned include network addressing, configuring, cybersecurity, troubleshooting, security, monitoring network traffic and reading system indicators to troubleshoot problems, network administration and accounts, and system backup.

8122 Advanced Networking (Capstone)

This course allows students to demonstrate network administration and management skills in various networking projects. Possible projects include implementing network security tools to identify network vulnerabilities and performing network security penetration testing, assessment, proposing resolutions, and forming security plans for implementation. Other projects include identifying network threats to cyber security and plans for disaster prevention and recovery, analyzing client networking needs and requirements and developing possible alternatives to meet client needs.

Software and Systems Development (Pathway 174)

Systems Programming (Sub-Pathway 174A)
8130 Introduction to Systems Programming

This course will introduce the systems development process to students. Topics covered include the development life cycle, development models, specifications and requirements, working in development teams, use of

versions, and diagramming processes using flowcharts and Unified Modeling Language.

8131 Intermediate Systems Programming (Concentrator)

This course provides students with the fundamental knowledge of computer programming for solving applied problems. Topics covered include using various programming languages, protocols, language syntax, data structures, object-oriented concepts, interfaces, sorting and searching algorithms, and developing reports. Also covered, software testing, debugging, and improvement, integrated development using object-oriented programming and sensory information from robots to solve problems and meet challenges integrating STEM subjects.

8132 Advanced Systems Programming (Capstone)

This course emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development. Students apply discrete programming skills to make a video game, a virtual pet, a sound editor, etc. and will explore careers in programming, including wireless applications for iPhone, Android, and applications. It also includes the study of data structures, design, and abstraction. Other topics might include developing databases and data modeling.

Web and Social Media Programming and Design (Sub-Pathway 174B)
8133 Introduction to Web and Social Media Programming and Design

This course will introduce students to the integration of various media into programming assignments including Web assignments. Students will also be introduced to the basic design elements used in interactive media. Other topics include encoding methods, using media design and editing software, animation and drawing software as well as image editors and three-dimensional design. Online content delivery process will be outlined as well as establishing online presence and e-commerce capabilities and Web security. Simple coding assignments using HTML and Cascading Style Sheets are used to teach basic Web design including the use of images, hyperlinks, tables, forms, video and audio.

8134 Intermediate Web and Social Media Programming and Design (Concentrator)

This course allows students to work on various projects such as Web-based businesses, e-port support and programming, and mobile apps. Students will learn to create multimedia productions and

presentations, implement standard graphical programming techniques for object movement, create graphical user interfaces, and apply graphic design principles and visual communication techniques. Other topics include capturing images by developing camera skills and making choices lenses, depth, motion and lighting, developing digitally generated and enhanced media, modeling, simulation, animation and image retouching.

8135 Advanced Web and Social Media Programming and Design (Capstone)

This course allows students to produce multimedia projects from concept (content
gathering/research) to project completion (authoring/transmission) considering media that would be used by enterprises or mobile apps for marketing, corporate communication, and public use. As part of these projects, students produce professional-level media, images, documents, audio, and video clips and software. Some projects might include Artificial Intelligence methods and behaviors to create web robots (bots) such as chat bots, etc.

Games and Simulations (Pathway 175)

8140 Introduction to Games and Simulation

This course introduces students to the history, art, and science of game development and the unique differences between automated versus non-automated gaming. Students will be introduced to game and simulation analysis, design, documentation, and development tools.

8141 Intermediate Games and Simulation (Concentrator)

This course allows students to work in teams to develop games or simulations. Students will learn skills such as storyboarding, plot, flow, and using functions. Learning how to implement standard game/simulation strategy and rules of play as well as integrating mixed media appropriate to the game design/simulation will be included. Other topics include design specifications, delivery, rules of play, navigation functionality, scoring, and other special features.

8142 Advanced Games and Simulation (Capstone)

This course allows students to learn and display mastery of advanced game design/simulation skills in projects they design individually or in teams. Advanced skills include applying programming skills for rendering single player or multiuser games or simulation projects, program control, branching, memory management, strategies, and implementation. Using

Artificial Intelligence techniques such as finite state machines in nonplayer characters could be included.

MANUFACTURING AND PRODUCT DEVELOPMENT SECTOR (MAN)

The Manufacturing and Product Development sector provides a foundation for secondary students in California in manufacturing processes and systems, including graphic design production, machine tooling and forming, welding and materials joining, and product innovation and design. Students engage in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and skill preparation in four pathways. The pathways emphasize real-world, occupationally relevant experiences of significant scope and depth in manufacturing. The knowledge and skills are acquired within a sequential, standards-based pathway program that integrates hands-on, project-based, and work-based instruction. Standards in this sector are designed to prepare students for entry to a career, postsecondary education, or advanced technical training.

Multiple Pathways (Pathway 999)

8200 Introduction to Manufacturing and Product Development

This introduction course provides students with the foundational concepts required for pursuing career pathways within this industry sector. The skills and content knowledge help prepare students to continue their education in multiple pathway concentrator courses within this industry sector.

Graphic Production Technologies (Pathway 210)

8210 Intermediate Graphic Production Technologies (Concentrator)

This concentrator course builds upon the Manufacturing and Product Development introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in the Graphic Production career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Graphic Production pathway's sequence of courses.

8211 Advanced Graphic Production Technologies (Capstone)

This capstone course further builds upon the Manufacturing and Product Development introduction course and pathway concentrator course in the

industry sector and is the final course taken in a sequence of courses which prepares students to work and pursue further education in multiple career pathways. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

Machining and Forming Technologies (Pathway 212)

8220 Intermediate Machining and Forming Technologies (Concentrator)

This concentrator course builds upon the Manufacturing and Product Development introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in the Machining and Forming Technologies career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Machining and Forming Technologies pathway's sequence of courses.

8221 Advanced Machining and Forming Technologies (Capstone)

This capstone course further builds upon the Manufacturing and Product Development introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in Machining and Forming Technologies career pathway, which precedes this pathway's capstone course. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

Welding and Materials Joining (Pathway 213)

8230 Intermediate Welding and Materials Joining (Concentrator)

This concentrator course builds upon the Manufacturing and Product Development introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in Welding and Materials Joining career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Welding and Materials Joining pathway's sequence of courses.

8231 Advanced Welding and Materials Joining (Capstone)

This capstone course further builds upon the Manufacturing and Product Development introduction and the Welding and Materials Joining concentrator courses. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

Product Innovation and Design (Pathway 216)

8240 Intermediate Product Innovation and Design (Concentrator)

This concentrator course builds upon the Manufacturing and Product Development introduction course and provides students with additional concepts and experiences required for career readiness and pursuing further education in Product Innovation and Design career pathway, which precedes this pathway's capstone course. This concentrator course leads to the capstone course in the Product Innovation and Design pathway's sequence of courses.

8241 Advanced Product Innovation and Design (Capstone)

This capstone course further builds upon the Manufacturing and Product Development introduction and the Product Innovation and Design concentrator courses. This career technical education capstone course provides content, skill development and leadership training which prepare students for the world of work and to pursue further education such as industry certifications and a postsecondary degree.

MARKETING, SALES, AND SERVICES SECTOR (MSS)

The Marketing, Sales, and Services sector is designed to align career-path course work with current and projected employment opportunities. There is a basic business foundation in this sector: marketing and innovation are two major competitive issues for business today. Marketing includes the processes and techniques of identifying, promoting, and transferring products or services to consumers and is a function of almost every business. It exists within an environment of rapidly changing technology, interdependent nations and economies, and increasing demands for ethical and social responsibility. The three pathways in this sector (Marketing, Professional Sales, and Entrepreneurship/Self-Employment) emphasize training to meet the growing need for marketing professionals with skills in communication, small business, self-employment, advertising, marketing strategies, product and service management, and promotion and selling concepts. These pathways provide a firm foundation for advanced education, entry to a career, and success in the global marketplace. All industry sectors include entrepreneurship and marketing, and therefore students in the Marketing, Sales, and Services sector have a variety of career options.

Multiple Pathways (Pathway 999)

8300 Introduction to Marketing, Sales, and Service

This course content includes foundational concepts for each of the three pathways within the Marketing, Sales, and Services Sector including Entrepreneurship, Marketing, and Professional Sales. Subject matter includes market research, economics, marketing budgets, creative development and design, and marketing foundations/functions with emphasis on public relations, advertising, branding, promotion, product/service management, pricing and distribution.

Marketing (Pathway 244)

8310 Intermediate Marketing (Concentrator)

This concentrator course content builds on Introduction to Marketing, Sales, and Service course content. Specialized programs of study in this field may include sports marketing, hospitality marketing, advertising or market research. Students demonstrate the acquisition of content through the development of marketing plans and campaigns.

8311 Advanced Marketing (Capstone)

This capstone course content builds on previous course content and may focus on advanced strategies and marketing concepts that culminate in this final course of the Marketing pathway sequence. Specialized

programs of study in this field may include sports marketing, hospitality marketing, and advertising or market research.

Professional Sales (Pathway 243)

8320 Intermediate Professional Sales (Concentrator)

This concentrator course content builds on Introduction to Marketing, Sales, and Service content. Knowledge and skills in theory and practice of sales designed to provide a professional foundation to those involved in personal selling careers, including the fundamentals of personal selling with an emphasis on customer behavior, persuasive presentation of ideas, products and services, and developing sales goals are covered. Students demonstrate the acquisition of content through the development of sales forecasts, presentations, etc. to drive sales activities.

8321 Advanced Professional Sales (Capstone)

This content in this course builds on previous course content and may focus on advanced strategies and Professional Sales concepts that culminate in this final course of the Professional Sales pathway sequence.

Entrepreneurship/Self-Employment (Pathway 241)

8330 Entrepreneurship/Self-Employment (Concentrator)

This concentrator course content builds on Introduction to Marketing, Sales, and Service course content. Knowledge and skills common to entrepreneurs and entrepreneurship, including the human characteristics vital for entrepreneurial thinking in a twenty-first century global world are covered. Entrepreneurial thinking (often called the entrepreneurial mindset) may be applied to all industry sectors. Business knowledge and skills required for entrepreneurs as well as intangible skills and knowledge such as creativity and innovation skills are developed. Students demonstrate the acquisition of content through the research and development of business plans.

8331 Advanced Entrepreneurship/Self-Employment (Capstone)

This capstone course content builds on previous course content and may focus on advanced strategies and Entrepreneurial concepts that culminate in this final course of the Advanced Entrepreneurship/Self-Employment pathway sequence.

PUBLIC SERVICES SECTOR (PUB)

A public service is one that is provided by government to its citizens, either directly or through the financing of another entity to provide that service. Careers in public service are unique because they center on challenging issues that define the public agenda and involve the provision of vital services to the public—from local to international levels. Public service professions offer many career opportunities, including the following career pathways: Public Safety, Emergency Response, and Legal Practices. Students engage in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, skill preparation in the industry, and preparation for post- secondary education and training. Knowledge and skills are learned and applied within a sequential, standards-based pathway program that integrates classroom, laboratory, and project- and work-based instruction. Standards in this sector are designed to prepare students for technical training, postsecondary education, and entry-level employment.

Multiple Pathways (Pathway 999)

8400 Introduction to Public Services

This introduction course provides students with the awareness of a variety of career options and the foundational concepts in which they can begin to form future career choices that meet their individual career interest. Students are exposed to the specific requirements for various careers in the Emergency Response, Legal Practices, Public Safety, and the academic, physical and civic responsibility to achieve their career goals in a service career. Introductory courses provide the basic experiences and activities and leadership development that will set a foundation for entry into any one of the Public Services pathways at introductory level courses.

Public Safety (Pathway 232)

8410 Introduction to Public Safety (Introduction)

This course introduces concepts, principles, and techniques used in occupations that fall under the heading of Public Safety, including police, corrections, and homeland security. The basic knowledge and skills needed in services that provide for the safety and security of people and property and prevention of crime are reviewed.

8411 Intermediate Public Safety (Concentration)

This course includes intermediate academic and skill development courses that describe the role of specific careers in Public Safety. The focus is the science in solving crimes using an evidence-based system. Topics include the history of forensics, agency roles, laboratory design and scientific method evidence processing, establishing hypotheses and drawing conclusions. Students will also explore various career opportunities to create a career plan that will include additional secondary coursework.

8412 Advanced Public Safety (Capstone)

This course is designed to prepare individuals for specific careers or jobs in Public Safety such as law enforcement, homeland security, and corrections. The content of this, the capstone course, includes the essential knowledge and skill development for these careers. For example, students will learn about the organizational structure of specific law enforcement agencies, the laws that they enforce and the policies that they follow. The hiring requirements for these agencies will be investigated. The skills developed in these agency's academies will be explored. Students will then develop some of the skills both academic and physical, that they will need to meet the demands of the academy and the career that follows it. Students will discover the impact of personal choices affecting potential employment such as behaviors affecting a clean background check; the ethics and moral standards that must be met by member's serving the community for this agency. Opportunities to participate in workplace learning will be provided as well as training designed to prepare the student for entry examinations and certifications will also be provided.

Emergency Response (Pathway 233)

8420 Introduction to Emergency Response (Introduction)

This course is the introductory course in the Emergency Response Pathway and provides students with decision making information about careers in Emergency Response careers or to pursue advanced skill training in Emergency Services. Course content includes classroom instruction, hands-on training and community experience. This content is designed to provide students with an understanding of the variety of agencies, employment opportunities, and necessary skill requirements in the many career within Emergency Services. Information included will be in the field of fire and emergency operations, disaster response,

emergency management, the latest industry principles, theory, and best practices. Students learn tactical operations, safety, leadership, community outreach, and response techniques.

8421 Intermediate Emergency Response (Concentration)

This course provides students with an outline of the Emergency Medical Services (EMS) system, state and community emergency systems, introduces students to environment citizen emergency assessment, skill development, as well as provides pathophysiology and immediate action and care for various emergencies. Content covers techniques It covers techniques of emergency environmental, community action, and medical care within the responsibilities of the first responders, fires service careers, and emphasizes the development of student skills in recognition of symptoms of illnesses and injuries and proper procedures of emergency care. Emphasis is placed on communication, operations, community action, and patient care in accordance with the California State EMS agencies.

8422 Advanced Emergency Response (Capstone)

This course is designed to prepare individuals for specific careers or jobs in Emergency Services. Content of these various courses would contain the essential knowledge and skill development of that specific career. Students will learn about the specific organizational structure of the oversight agency, laws regulations and policy for specific agencies, state laws and guidelines for career entry as well as certification, skill proficiency and employment requirement for the specific career in Emergency Services. Students will have the opportunity to participate in work-based learning, prepare for postsecondary options and qualify to take examinations and certification as set forth by California State regulation and agency requirement based on age, skill, and knowledge.

Legal Practices (Pathway 231)

8430 Introduction to Legal Practices

This course allows students to survey the range of legal careers including paralegals, attorneys, social justice advocates, mediators, and other occupations. The content provides students with a basis for understanding the American political and legal systems. Content includes a focus on legal ideas, legal processes, how the law works, and the sources of United States law. Content introduces legal research and writing.

8431 Intermediate Legal Practices (Concentrator)

This concentrator course is designed to provide students specific content knowledge, industry skills, and leadership development within the Legal Practices pathways. Content provides an understating and application of laws that affect everyday life; families, business, social decision making as well as well as the relationship to policies. Course could include content knowledge within historical, philosophical, and institutional contexts of social and economic justice and human rights.

8432 Advanced Legal Practices (Capstone)

This capstone course allows students to examine how statutes and policies are developed to safeguard society throughout history and the relationship to today legal practices. Students will understand the analysis of civil rights and liberties, and the ways courts and legislators deal with constitutional questions. Student will develop the skill and knowledge relevant to the needs of modern legal practice, skills for entry into legal practice careers, and preparation into postsecondary advancement, future job prospects, and the progression to higher level careers in Legal Practices.

TRANSPORTATION SECTOR (TRA)

This sector is designed to provide a foundation in transportation services for all industrial technology education students in California. There are eight focus areas that fall under the Transportation sector, each with different career opportunities. The focus areas are On-Road; Off-Road; Stationary; Rail; Water/Sea; Air; Space; and Small Engines and Specialty Equipment. The pathways in the Transportation sector emphasize real-world, occupationally relevant experiences of significant scope and depth in three areas: Operations, Structural Repair and Refinishing, and Systems Diagnostics, Service, and Repair. The standards are designed to integrate academic and technical preparation and focus on career awareness, career exploration, and skill preparation in the three pathways. Integral components include classroom, laboratory, and hands-on contextual learning; project- and work-based instruction; and leadership development. The standards in this sector prepare students for continued training, postsecondary education, and entry to a career.

Multiple Pathways (Pathway 999)

8500 Introduction to Transportation

This course includes foundational concepts required for pursuing further education in each of the three pathways within the transportation sector

including: Operations, Structural Repair and Refinishing, and Systems Diagnostics, Service, and Repair. Instructional content of this course may lead the student directly into an intermediate pathway course within the transportation sector.

Operations (Pathway 223)

8510 Introduction to Operations

This introductory course will offer first year students a unique perspective of the role the transportation industry has on the global economy. Students will be made aware of the range or diversity of employment opportunities available within this pathway such as the distribution, logistics, and warehousing of goods, materials and mass transit. The student will also be made aware of all the forms of transportation necessary to achieve these efforts.

8511 Intermediate Operations (Concentrator)

This concentrator level course provides more specific areas of focus such as planning, management, and the infrastructure required for the distribution and logistics of materials and products. The instruction will also concentrate on operating and managing facilities designed for the movement of goods, materials and mass transit.

8512 Advanced Operations (Capstone)

This capstone course will provide students with the opportunity to function in a variety of roles within this pathway. Students will demonstrate competency in the knowledge and skills acquired in introductory and concentration level courses. Students will participate in work-based learning opportunities which can lead to internships. Students that successfully complete the course of study will qualify for industry recognized certifications. Upon completion of this course, students will be prepared for an entry level position at a facility that provides the movement of goods, materials, and/or mass transit.

Structural Repair and Refinishing (Pathway 220)

8520 Introduction to Structural Repair and Refinishing

This introductory course will offer first year students a unique perspective of the skills and knowledge required for an entry level position in the structural repair and refinishing sector of the transportation industry. The

instruction will concentrate on the fundamentals of collision repair and refinishing of motor driven vehicles. This will include an introduction to panel repair, sanding, taping, masking, and painting. Spot, MIG, and Oxy/Acetylene welding will be introduced. Safety and proper tool use and identification is stressed.

8521 Intermediate Structural Repair and Refinishing (Concentrator)

This concentrator level course will build on the knowledge and skills obtained in the introductory level course. This course provides more specific areas of focus such as proficiency in spot and MIG welding, full panel replacement and preparation as well as painting and refinishing. The student will also become familiar with the entire repair process from estimation through to final fit and finish. Students will also become familiar with interior, upholstery, and detailing work.

8522 Advanced Structural Repair and Refinishing (Capstone)

This capstone level course will provide students with the opportunity to function in a variety of roles within this pathway. Students will demonstrate competency in the skills and knowledge acquired in introductory and concentration level courses. Students will participate in work-based learning opportunities which can lead to internships. Students that successfully complete the course of study will qualify for industry recognized certifications. Upon completion of this course, students will be prepared for an entry level position at a vehicle collision and refinishing facility.

Systems Diagnostics, Service, and Repair (Pathway 221)

8530 Introduction to Systems Diagnostics, Service, and Repair

This introductory course will offer first year students a unique perspective of the skills and knowledge required for an entry level position in the systems diagnostics, service, and repair of vehicles of the twenty first century. The instruction will concentrate on but will not limited to the fundamentals of shop safety, tool identification and proper use along with basic repairs and maintenance of modern vehicles.

8531 Intermediate Systems Diagnostics, Service, and Repair (Concentrator)

This concentrator level course provides more specific areas of focus such as system diagnosis, advanced service, maintenance, and repair. The instruction will also concentrate on support systems such as engine performance, braking, steering, cooling, and electrical/electronic

components. The student will also be exposed to transmissions and differentials.

8532 Advanced Systems Diagnostics, Service, and Repair (Capstone)

This capstone level course will provide students with the opportunity to function in a variety of roles within this pathway. Students will demonstrate competency in the skills and knowledge acquired in introductory and concentration level courses. Students will participate in work-based learning opportunities which can lead to internships. Students that successfully complete the course of study will qualify for industry recognized certifications. Upon completion of this course, students will be prepared for an entry level position at a vehicle repair facility.

WORK EXPERIENCE EDUCATION (WEE)

Work Experience Education (WEE) is a state-sponsored Work-based Learning course of study that develops critical workplace skills that lead to college and career success. Skills development featured in WEE include motivation, time management, perseverance, and self-regulation.

Students in WEE develop ready-to-work attitudes/interview skills; financial literacy; knowledge of workplace safety and rights as workers; business operations; career decision making; career mapping/life goals plan and much more.

WEE combines an on-the-job component with related classroom instruction designed to maximize the value of on-the-job experiences. WEE achieves its goals through an integrated educational process that spans the Work-based Learning Continuum: (1) career exploration that helps students to choose a career path based on their interests and aptitudes; (2) career preparation that develops knowledge and skills needed for successful careers; and (3) career training that affords students the opportunity to train for employment and/or postsecondary education in a specific career sector.

9500 Exploratory Work Experience Education

The objective of Exploratory Work Experience Education (EWEE) is to provide career guidance to students and ascertain their interests and aptitudes for specific careers through opportunities to observe and sample a variety of conditions of work. The EWEE includes a combination of job observations and related classroom instruction in WEE. The student may be required to perform non-paid work activities while exploring the occupation on a limited, periodic, and sampling basis. The length of exploratory assignment may vary, depending on the aptitude of the student, the occupation being explored, the facilities of the work station, and the job classification. Work placements are unpaid. EWEE corresponds to the Career Exploration portion of the Work-based Learning continuum. The LEA must provide Workers' Compensation Insurance for the student unless provided by the employer via a written agreement.

9501 General Work Experience Education (GWEE)

The purpose of General Work Experience Education (GWEE) is to learn critical workplace skills and to provide students with opportunities for applying lessons learned about workplace competencies as well as academic skills such as reading, writing, and computation through a combination of supervised paid employment in any occupational field and related classroom instruction. Students participating in GWEE require a

work permit. GWEE corresponds to the Career Preparation portion of the Work-based Learning Continuum.

9502 Career Technical Work Experience Education (CTWEE)

The intent of Career Technical Work Experience Education (CTWEE) is to reinforce and extend career technical education learning opportunities for students through a combination of related classroom instruction and supervised paid employment. CTWEE develops and refines occupational competencies necessary to acquire paid employment to adapt to the employment environment, and to advance in an occupation. Students enrolled in CTWEE must have a worksite placement or employment that is related to a previous or concurrently enrolled Career Technical Education course of study. CTWEE corresponds to the Career Training portion of the Work-based Learning Continuum and requires a work permit.