

CAREER TECHNICAL EDUCATION (CTE) PATHWAYS AND ACADEMIES

Career and Technical Education (CTE) offers pathways taught by industry professionals so students can attain 21st century career skills paired with real-world academics in a variety of different courses across 13 industry sectors. Our classes are designed to support student success in both college and career by developing students to have marketable skills and certifications, successful habits and real world industry experience.

Academies are designed to offer students the opportunity to integrate academic studies with a specific career. The focus or theme of each academy is incorporated throughout academic classes, including Math, Science, English and Social Studies as well as career technical education classes in a particular CTE pathway. The following Academies are available at our district: AHS - Health Academy and Engineering Academy, SHS - Fitness and Sports Training (FAST) Academy and Green Construction Academy, NSHS - Health Academy and EAHS - Digital Media and AG International Academy.

CTE Pathway classes are offered at Mission Trails ROP Center, Alisal High School, Salinas High School, North Salinas High School, Everett Alvarez High School, Mount Toro High School and El Puente School. In many of our CTE classes, students will be given the opportunity to attend job shadowing, and class at local off site locations for work-based learning experiences.

Credits applicable toward high school graduation will be awarded each semester. Normally 10 credits per semester are awarded for each one hour long yearly class. CTE courses meet the Salinas Union High School District graduation requirements for career and technical education. Most CTE courses meet A-G Requirements and some are articulated with a community college. To become a CTE Pathway completer, students shall complete 360 hours of CTE coursework in the same pathway during their high school career. This could be accomplished in one year if the student takes two hours of instruction each day or in two years if the student takes one hour of CTE instruction each day.

REGISTRATION

HIGH SCHOOL STUDENTS:

SUHSD has a Career Center in each comprehensive site to ensure that all students have college and career exploration opportunities. Our Career Coordinators are full time counselors that are dedicated to guide students in selecting a CTE Pathway or Academy that is aligned with their life goals and to monitor success. For further information on college and career courses contact our Career Coordinators:

Alisal High School	Atanacia Mares	831/796-7600	atanacia.mares@salinasuhdsd.org
Everett Alvarez High School	Janet Betancourt	831/796-7800	janet.betancourt@salinasuhdsd.org
North Salinas High School	Dr. Brian Preble	831/796-7500	brian.preble@salinasuhdsd.org
Salinas High School	Allan Schooley	831/796-7400	allan.schooley@salinasuhdsd.org
El Puente and Mount Toro High School	April Davis	831/796-7700 X 1309 831/790-6900 x1333	april.davis@salinasuhdsd.org

CTE SECTORS

AGRICULTURE AND NATURAL RESOURCES SECTOR

Agriculture and Natural Resources Sector						
Course sequence	Agriculture Business Pathway	Agriculture Mechanics Pathways	Animal Science Pathway	Ornamental Horticulture (Floral Design) Pathway	Environmental Horticulture Pathway	Sustainable Agriculture Pathway
Introductory Course						Biology and Sustainable Agriculture
Concentrator Course	Agriculture Business Occupations	Agriculture Mechanics 1/2	Animal Care 1/2	Art History of Floral Design 1/2	Environmental Horticulture 1/2	Chemistry and Agriscience
Capstone Course	Advanced Agricultural Business	Agriculture Mechanics 3/4	Veterinary Science	Agriculture Business Floral Design	Hydrology, Landscape, & Sustainable Environmental Design	Advanced Interdisciplinary Science for Sustainable Agriculture

Sector description: The Agriculture and Natural Resources Sector Pathways are designed to prepare students for entry level positions as production associate, mechanic, farm hand, floral designer, gardner or equine manager or related fields. Students study skills as marketing, sales, management, safety practices, use of tools, project planning, welding, concrete work, electrical wiring, carpentry, livestock production and marketing, animal care, veterinary practices, floral based projects, plant growth and development, plant nutrition, graden preparation, landscape design, life, earth, physical and chemistry sciences with agricultural applications, including the chemical and biological principles that govern plant science , all necessary for entry level positions in the above mentioned employment fields.

Employment opportunity:

Entry Level (w/H.S. diploma)

Parts counter sales representative
 Production associate
 Mechanic
 Farm hand
 Small engine mechanic
 Apprentice floral designer
 Floral designer
 Plant care specialist
 Floral stock associate - Costco
 Gardner
 Equine manager

Technical Level (w/AA or AS or certificate)

Technical sales representative
 Vineyard mechanic
 Agricultural technician
 Animal technician
 Horticulture technician
 Garden manager
 Sustainability coordinator

Professional Level (w/BA or BS degree)

Sales representative
 Horticultural sales
 Sales Agronomist
 Ranch manager
 Farm manager
 Agricultural mechanics instructor
 Research assistant
 Animal educator
 Molecular genetics research associate
 Wildlife biologist
 Sustainable agriculture program manager
 Agronomist

For more information visit: www.salinasuhd.org/rop

Agriculture Business Occupations: Prepares students to perform tasks related to agribusiness, marketing, sales, agricultural economics, and management of farm and agriculturally related enterprises. Included are such topics as the study of agribusiness-related careers, farm safety management, responsibilities of management, government

organizations and regulations, basic economics, agricultural credit, and recordkeeping and accounting. Articulated with Hartnell College ABT 130 course. Credits: 10

Advanced Agriculture Business: This course allows students to develop the skills and foundational knowledge needed to start a sustainable agribusiness. In addition to being able to evaluate and differentiate agricultural business types and structures, students will also develop ethical and socially responsible decision making skills through a series of analytical and research essays as well as through detailed presentations and mock trials. While the first semester of this year-long course focuses on building an understanding of agriculture and sustainability, as well as the many forces that affect the industry, the second semester focuses on using that base knowledge to inform building business and entrepreneurial acumen. By the end of this course students will synthesize language, communication, critical thinking skills, marketing and economic principles, pertinent legal knowledge, as well as the foundations of agriculture into the design of a business plan for a sustainable agribusiness. After a series of revisions and peer editing, students will pitch the business plan to a panel of community partners and industry professionals who will not only evaluate the viability of each plan but offer critical feedback as well. Articulated with Hartnell College ABT 80 course. **(Prerequisite: Agriculture Business Occupations)** Credits: 10

Agriculture Mechanics 1/2: A year course open to all students. Strongly recommended for all beginning students, those seeking an extended agricultural mechanics studies program and those students wanting a variety of skills in agricultural mechanics. This course will cover: general equipment and shop safety practices, selection and use of hand and power tools, project planning with materials, oxy-acetylene and arc welding, basic concrete work, basic electrical wiring, and principles of carpentry. Career awareness, FFA achievement programs, and supervised project program opportunities will also be studied. Practical experience will be gained through student completion of selected projects related to study areas. Individual student construction of projects will complement class studies and qualified projects will be entered in the county fair for competition. FFA and SAEP are integral parts of the curriculum. Credits: 10

Agriculture Mechanics 3/4: This course provides students in agriculture an opportunity to reinforce and extend understanding of applied mechanical applications. Students will be exposed to mechanical, electrical and thermal power that are associated with the field of agricultural welding. Applied activities develop an understanding and skill development in metal joining and fabrication processes. Instruction will prepare students to select, operate, repair, fabricate and maintain a variety of agricultural machinery and equipment. Processes covered may include: Oxyfuel Cutting/Heating/Welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux-cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW), Air-carbon Arc Cutting, Plasma Arc Cutting, Safety and Metal Fabrication. In addition, record keeping, communication skills, employability and human relation skills will be covered. Leadership development and Supervised Agricultural Experiences (SAE's) are also integral to this course. **(Prerequisite: Agriculture Mechanics 1/2)** Credits: 10

Animal Care 1/2: Provides students with training and skills for jobs related to livestock production and marketing. Course will include 60 hours of group instruction with a minimum of one hour each calendar week. Group instruction may include field trips and teacher supervised activity at the county fair. **(Prerequisite: must be a member of FFA)** Credits: 10

Veterinary Science: Is a hands-on science and lab-based course in which students learn about small animal care, small animal body systems, veterinary clinical practices amongst other areas. Students will also be able to experience hands on activities at the school farm as well as during classroom labs. **(Prerequisite: Animal Care 1/2)** Credits: 10

Art History of Floral Design 1/2: Provides introduction to artistic and creative perception including aesthetic valuing through a series of projects in various media including tempera, pencil, flower, tile and a variety of papers. Students are also introduced to the elements and principles of visual art design such as line, shape/form, color, balance, and emphasis using a series of floral-based projects to explore the connections, relations, and application to visual arts design. This course is UC “F” (visual and performing arts) approved. Credits: 10

Agriculture Business Floral Design: Teaches students how to make corsages and floral arrangements, including bridal bouquets and other specialty items. Growth and maintenance of ornamental CTEs under greenhouse conditions will also be introduced. This course is UC “F” (visual and performing arts) approved. **(Prerequisite: Art History of Floral Design)** Credits: 10

Environmental Horticulture 1/2: This is a year course open to all students. Emphasis is placed on introductory studies in the horticulture industry, plant growth and development, equipment and uses, soils and plant nutrition, propagation methods, garden preparation, and methods of special ornamental and garden plant production. Students receive practical skills training through laboratory and class cooperative activities conducted in the greenhouse facilities. Credits: 10

Hydrology, Landscape and Sustainable Environmental Design: The class will serve as the capstone course in the environmental horticultural pathway. The course has been UC/CSU-approved as a lab science and will cover all aspects of an environmentally sound landscape design. Students will develop an awareness of current environmental issues and determine how best to approach various issues, depending on regions and territories. Other instructional objectives include the history of landscape architecture, technical drafting, and computer design. The course will incorporate California state standards for literacy, Next Generation Science Standards, and model career technical education standards. This course is UC “F” (visual and performing arts) approved. **(Prerequisite: Environmental Horticulture)** Credits: 10

Biology and Sustainable Agriculture: Agricultural Biology is a one-year, laboratory science course, designed for the college-bound student with career interests in agriculture. The course has an extensive laboratory component in order to connect the big ideas of life science with agricultural applications, earth and physical science principles, and other curricular areas, including written and oral reporting skills. FFA and SAEP are integral parts of the curriculum. This course is UC “d” (laboratory science) approved. Credits: 10


Chemistry and Agriscience: This lab-based course is aligned to the California Content Standards for Chemistry and will include an agricultural component. This course studies the composition and behavior of matter. Atomic and molecular structure; conservation of matter and stoichiometry; chemicals and their properties; and nuclear processes are studied. Classroom demonstrations and laboratory activities are an integral part of this course. A grade of “C” or better in Algebra 1-2 recommended, or the approval of the instruction. FFA and SAEP are integral parts of the curriculum. This course is UC “d” (laboratory science) approved. **(Prerequisite: Biology and Sustainable Agriculture)** Credits: 10

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, including the chemical and biological principles that govern plant science and cCTE production, students design systems and experiments to solve agricultural management issues currently facing the industry. Additionally, students connect the products created in this class with industry activities to link real world encounters and implement skills demanded by both colleges and careers. The course culminates with an agriscience experimental research project in which students design and conduct an experiment to solve a relevant agricultural issue. This course is UC “d” (laboratory science) approved. **(Prerequisite: Chemistry and Agriscience)** Credits: 10

ARTS, MEDIA AND ENTERTAINMENT SECTOR

Arts, Media and Entertainment Sector			
Course Sequence	Digital Media Academy	Design, Visual and Media Arts Pathway	Graphic Design Pathway
Introductory Course	Art in the Digital Age		
Concentrator Course	TV Media Production	TV Media Production	Art in the Digital Age
Capstone Course	Cinema Arts & Production	Cinema Arts & Production	Graphic Design

Sector description: The Arts, Media and Entertainment Sector Pathways are designed to prepare students for entry level positions as design associate, crafter, junior video editor, production artist or 3D technical artist associate or related fields. Students study skills as digital imagery, communication, video and film production and preparation, computer graphic design and publishing, all necessary for entry level positions in the above mentioned employment fields.

Certifications:  **Television Broadcasting (590)**

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Sales design associate	After school enrichment instructor	Art teacher
Design consultant assistant	Product Development and Design Assistant	Art specialist
Crafter/Fine Art handler	Junior Designer/Assistant	Product designer
Museum experience associate	CAD design team assistant	Junior designer
Junior Video editor	Associate editor	News Anchor
Trailer editor	Digital editor	Workflow editor
Production artist	3D artist	Video producer
3D technical artist associate	3D animator	Video game editor
	Photographer	Studio/Camera operator
		Video engineer
		Sound engineer
		Support engineer
		Graphic designer

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Art in the Digital Age: This course is a year-long visual and performing arts course that starts by exploring the invention of lithography and the printing press, the inventions of photography starting with the camera obscura, and contemporary digital imagery and communication. As the next step, the course continues to explore how these advancements changed history, culture, the arts and communication. Using elements of art and principles of design students will experience creating and interpreting traditional and digital imagery with individual expression advancing their visual literacy. This is an introductory course that incorporates historical and cultural trends in a project-based learning environment. Visual interpretation along with critical thinking is implemented in cross-curricular projects. The role of contemporary technology in the global market will be connected to commercial applications, trends in contemporary art as a result of technological advancements, and the role of the artist in today's society. The projects produced will have practical connections to real world relationships in the technological and commercial art fields allowing the students to see clear obtainable pathways to career and/or college success. This course is UC "f" (visual and performing arts) approved. Credits: 10

TV Media Production: This course is a foundation course for students interested in video arts. Students learn technical and artistic aspects of video production as well as film history, theory, analysis and preparation. Students learn to use digital video cameras as software programs as Final Cut Pro X, Compressor, Motion, Logic Pro, Mainstage, Adobe Premiere, Adobe Media Encoder, Audition, Adobe Photoshop, Adobe Lightroom, Adobe SpeedGrade, Adobe After Effects, and Microsoft Office to film, edit, and create sound and music for their videos. Students will be required to develop four main video projects by working collaboratively in small video teams. This course is UC “f” (visual and performing arts) approved. Credits: 10

Cinema Arts & Production: In this course students will be introduced to the art of cinema and video/arts production. This course is a foundation course for students interested in video and film production. Students will learn technical and industry aspects of video and film production as well as film, history, theory, analysis, aesthetics, artistry and appreciation. Using digital cameras, movie, and DVD, students will film, edit, and provide sound to make their own videos. Students will learn the aspects of preproduction, production, and postproduction. They will learn all major aspects of videography, lighting, and audio, as well as the art of directing. Students will also gain a historical perspective of the film industry and how advances in technology have changed the way films are made. Students will get hands-on experience in creating their own videos and will learn about the different steps needed in making a video. Students will also understand the importance and gain transferable work skills such as communicating effectively with others, working as members of a team, and critical thinking which are all necessary in being successful employees in this industry. Students are provided with hands-on training with television studio and production equipment, as well as the opportunity to participate on actual KMST Community Television Cable 26 Television Programs. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: Precision Exams Television Broadcasting. **(Prerequisite: TV Media Production)** Credits: 10

Graphic Design: Students learn computerized special effects, make professional posters, publish a newsletter, create exciting computerized presentations, and make their own advertising video. Students will also learn computer graphic design, animation, and make a homepage in the World Wide Web or Internet. This course is UC “f” (visual and performing arts) approved. **(Prerequisite: Art in the Digital Age)** Credits: 10

BUILDING AND CONSTRUCTION TRADES SECTOR

Building and Construction Trades Sector			
Course Sequence	Construction Technology Pathway	Green Construction Academy	
Introductory Course		Pre-Engineering	Construction Technology 1/2
Pre-Concentrator Course		Construction Technology 3/4	Construction Technology 3/4
Concentrator Course	Construction Technology 1/2	Mill Cabinet Construction	Mill Cabinet Construction
Capstone Course	Construction Technology 3/4	Multi Core Craft Construction	Multi Core Craft Construction

Sector description: The Construction technology and Green Construction Academy Pathways are designed to prepare students for entry level positions as mechanical helper, carpenter apprentice, cabinet maker and installer or woodworker or related fields. Students study skills as robotics, electronics, manufacturing processes, pneumatics, mechanisms, and computer design technologies, planning, designing, layout, estimating, problem solving, and fabrication of wood products, use of simple jigs and fixtures, cabinetmaking and furniture making, nomenclature and advanced operational techniques of woodworking and cabinet shop equipment, creating blueprints, project packets, and student-centered construction projects , all necessary for entry level positions in the above mentioned employment fields.

Certifications:  Building Trades Pre-Apprenticeship Program

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Mechanical helper	Manufacturing technician	Quality control engineer
Carpenter apprentice	Entry level quality control inspector	Engineer Intern
Carpenter	Product designer	Construction Project Engineer
Cabinet maker	Cabinet design programmer	Cabinet design engineer
Cabinet installer	Training coordinator	CAD/Vectorworks drafter
Aircraft Cabinet maker	Sales and kitchen designer	Architect
Woodworker	CAD designer - cabinets	Construction manager
Cabinet delivery	Associate drafter/Designer	

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Pre-Engineering: This course is designed to generate an interest in Engineering and related occupations as career goals and expose students to the associated technologies through hands-on instruction and problem-solving activities. Scientific principles, mathematical concepts, and communication skills are taught through an activity oriented approach. Robotics, electronics, manufacturing processes, pneumatics, mechanisms, and computer design technologies will be explored by students. Student teams will progress through an articulated modular instructional system. This course is UC “g” (college preparatory elective) approved. Credits: 10

Construction Technology 1/2: Construction Technology 1-2 is a one year course open to all beginning students interested in the Wood Products Pathway. The students will use a variety of woodworking tools to produce useful wood products. All machines will be introduced by teacher demonstrations, multimedia presentations and related student readings. Students will gain experience in planning, designing, layout, estimating, problem solving, and fabrication of wood products. The safe and correct use of tools, machines, and materials will be stressed at all times. Students will apply academic concepts in English, Math and Science. Emphasis will also be placed upon the students’ sharing responsibilities with the teacher for the maintenance and management of the shop facilities. This course is UC “g” (college preparatory elective) approved. Credits: 10

Construction Technology 3/4: Construction Technology 3-4 is an advanced course open to all students that successfully completed Construction Technology 1-2. This course will study advanced phases of wood products, including furniture, and basic cabinet construction. Students will learn advanced operational techniques of portable and stationary woodworking equipment, and the use of simple jigs and fixtures. This course is designed for students preparing for postsecondary and Technical Education in the Construction and Engineering fields. Students will apply academic concepts in English, Math and Science to their woodworking projects. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Construction Technology 1/2)** Credits: 10

Mill Cabinet Construction: Through a series of individual and group experiences this course is designed to instruct students in the advanced phases of cabinetmaking and furniture making, nomenclature and advanced operational techniques of woodworking and cabinet shop equipment. Students will receive instruction in furniture making,

cabinetry, wood and wood by-products and materials used in the construction of furniture. Students practice communication skills by applying reading, writing, listening, speaking, visual and nonverbal skills. Methods used in achieving the Course Objective include lecture on the course as outlined, exams and reading assignment, demonstration and laboratory projects. Methods of evaluating objectives or outcomes include 3-4 examinations, review of evaluations, a project, a final examination and participation and attendance. Students require minimum materials such as a notebook, shop coat or apron, tape measure and pencil. Articulated with Hartnell College CMA 53 course. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Pre-Engineering)** Credits: 10

Multi Core Craft Construction: This course has been developed to integrate skills and concepts from the Building and Construction Trades with applied mathematics and English. As a natural progression, students will apply the craft skills required to design and build a variety of scaled structures that meet current code requirements. In addition, students will make real-world connections between construction, math, and English using written projects, construction documents that include creating blueprints, project packets, and student-centered construction projects. This course provides students the opportunity to apply academic knowledge and technical skills through a hands-on curriculum that meets pre-apprenticeship requirements for the National Building Trades Council. Articulated with Hartnell College CMA 51 course. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: OSHA 10 Hour Safety, Building Trades Pre-Apprenticeship Program. **(Prerequisite: Mill Cabinet Construction)** Credits: 10

BUSINESS AND FINANCE SECTOR

Business and Finance Sector																				
Course Sequence		Business Management Pathway																		
Concentrator Course		Business Technology 1/2																		
Capstone Course		Computer Business Applications																		
<p>Sector description: The Business Management Pathway is designed to prepare students for entry level positions as account clerk, office technician, computer operator and IT trainee or related fields. Students study skills as word processing, spreadsheets, database, desktop publishing, presentation software, touch typing using the QWERTY keyboard system, Microsoft Office Suite, STEM, HTML programming, and computer literacy, all necessary for entry level positions in the above mentioned employment fields.</p> <p>Employment opportunity:</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left;">Entry Level (w/H.S. diploma)</th> <th style="text-align: left;">Technical Level (w/AA or AS or certificate)</th> <th style="text-align: left;">Professional Level (w/BA or BS degree)</th> </tr> </thead> <tbody> <tr> <td>Account Clerk</td> <td>Administrative Assistant</td> <td>Financial Aid Specialist</td> </tr> <tr> <td>Computer operator part time</td> <td>Business Office Administrator</td> <td>Database Administrator</td> </tr> <tr> <td>Evidence technician</td> <td>Eligibility worker</td> <td>Librarian</td> </tr> <tr> <td>Office technician</td> <td>IT Support technician</td> <td>Business process manager</td> </tr> <tr> <td>IT Trainee</td> <td></td> <td></td> </tr> </tbody> </table> <p>For more information visit: www.salinasuhd.org/rop</p>			Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)	Account Clerk	Administrative Assistant	Financial Aid Specialist	Computer operator part time	Business Office Administrator	Database Administrator	Evidence technician	Eligibility worker	Librarian	Office technician	IT Support technician	Business process manager	IT Trainee		
Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)																		
Account Clerk	Administrative Assistant	Financial Aid Specialist																		
Computer operator part time	Business Office Administrator	Database Administrator																		
Evidence technician	Eligibility worker	Librarian																		
Office technician	IT Support technician	Business process manager																		
IT Trainee																				

Business Technology 1/2: Students will be able to understand communications as applied to personal and professional situations - they will demonstrate competency by selecting and using appropriate forms of communications in a variety of situations. Students will be introduced to word processing, spreadsheets, database,

desktop publishing, presentation software, and graphics. Additionally, touch typing using the QWERTY keyboard system is reinforced. Importance will also be placed upon maintaining organization of assignments and management of electronic files. Students will understand professional and ethical behavior consistent with regulations and organizational norms. This course is UC “g” (college preparatory elective) approved. Credits: 10

Computer Business Applications: Develops word processing, database skills with computer application programs. Teaches format and develops skills using Microsoft Office Suite, Introduces STEM, HTML programming, and computer Literacy. Open to students who have completed one year of Business Technology 1-2. An important class for college-bound or career directed students. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Business Technology 1/2)** Credits: 10

EDUCATION, CHILD DEVELOPMENT AND FAMILY SERVICES SECTOR

Education, Child Development and Family Services Sector								
Course Sequence	Child Development Pathway	Education Pathway						
Concentrator Course	Child Development 1/2	Careers in Education 1/2						
Capstone Course	Child Development 3/4	Careers in Education 3/4						
<p>Sector description: The Child Development and Education pathways are designed to prepare students for entry level positions as care associate, child care, nanny, sitter and teacher aide or related fields. Students study skills like responsibility, decision making and management , create a healthy, nurturing environment for children, basic academic, safety and communication skills, human development and its implications in a classroom setting, principles of teaching and learning, principles of team building and creating a positive school climate, philosophies of education and leadership, and exceptional student issues, all necessary for entry level positions in the above mentioned employment fields.</p> <p>Employment opportunity:</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 33%;">Entry Level (w/H.S. diploma)</th> <th style="width: 33%;">Technical Level (w/AA or AS or certificate)</th> <th style="width: 33%;">Professional Level (w/BA or BS degree)</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> Direct Care Associate Child care Worker Before School Child Care worker Nanny/Sitter/Child-care Teacher aide </td> <td style="vertical-align: top;"> Child Development Center Assistant Child Development Associate Preschool teacher Associate teacher Early childhood educator Infant care Child Care Center Director Early Childhood Educator Parent Educator </td> <td style="vertical-align: top;"> Child Care teacher Child Life Specialist After School Care Site Director Learning and Development Training Consultant Work Based Learning Coordinator Social Worker Early childhood development specialist Product toy designer </td> </tr> </tbody> </table> <p>For more information visit: www.salinasuhd.org/rop</p>			Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)	Direct Care Associate Child care Worker Before School Child Care worker Nanny/Sitter/Child-care Teacher aide	Child Development Center Assistant Child Development Associate Preschool teacher Associate teacher Early childhood educator Infant care Child Care Center Director Early Childhood Educator Parent Educator	Child Care teacher Child Life Specialist After School Care Site Director Learning and Development Training Consultant Work Based Learning Coordinator Social Worker Early childhood development specialist Product toy designer
Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)						
Direct Care Associate Child care Worker Before School Child Care worker Nanny/Sitter/Child-care Teacher aide	Child Development Center Assistant Child Development Associate Preschool teacher Associate teacher Early childhood educator Infant care Child Care Center Director Early Childhood Educator Parent Educator	Child Care teacher Child Life Specialist After School Care Site Director Learning and Development Training Consultant Work Based Learning Coordinator Social Worker Early childhood development specialist Product toy designer						

Child Development 1/2: Students learn how to create a healthy, nurturing environment for children and become aware of the developmental stages they go through from conception to age 5. Students study and apply the physical, social, emotional and intellectual needs of children as they work with preschoolers. Students plan and lead a variety of activities for young children. Responsibility, decision making and management are job skills learned in this class. This is an introductory course for the future parent, teacher, health care provider, or psychologist. Open to all students. Credits: 10

Child Development 3/4: This course continues to focus on the emotional/psychological, cognitive and physical development of the child. Current theoretical and research perspectives are emphasized. Included is a historical and socio-cultural overview of child development. A multi-disciplinary approach requires students to produce essays, oral presentations, and projects. **(Prerequisite: Child Development 1/2)** Credits: 10.

Careers in Education 1/2: This entry level course is designed to provide students with knowledge of career opportunities in the field of teaching and educational professions. Students are trained based on career preparation standards, that include basic academic, safety and communication skills. A portion of the class time will be spent in internships in a school setting, allowing students to apply concepts, analyze real life situations, and reflect on their own teaching practice. All students are required to observe and/or participate in variety of settings and classrooms at the primary, elementary and/or secondary levels. The course prepares students for college or university teacher training programs. This is a two hour per day program. This course is UC “g” (college preparatory elective) approved. Credits: 10

Careers in Education 3/4: Students continue to be learn and be trained in theories of human development and the implications for a classroom, principles of teaching and learning, principles of team building and creating a positive school climate, philosophies of education and leadership, and exceptional student issues. Students continue to participate in internships in a school setting, allowing students to apply concepts, analyze real life situations, and reflect on their own teaching practice. The course prepares students for college or university teacher training programs. This is a two hour per day program. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Careers in Education 1/2)** Credits: 10

ENGINEERING AND ARCHITECTURE SECTOR

Engineering and Architecture Sector			
Course Sequence	Engineering Academy		Engineering Application Pathway
Concentrator Course	Introduction to Engineering Design	Digital Electronics	Functional Design Through Algebra 1/2
Capstone Course	Principles of Engineering	Engineering Design and Development	Functional Design Through Algebra 3/4
<p>Sector description: The Engineering and Architecture Sector pathways are designed to prepare students for entry level positions as testing, HVAC, field and tower technicians, soil inspector, after school enrichment instructor and iOS apprentice or related fields. Students study skills as robotics, electronics, manufacturing processes, pneumatics, mechanisms, and computer design technologies, energy and power, materials and structures, sketching techniques, automation, statistics, kinematics, and design process, combinational and sequential logic design, teamwork, communication methods, engineering standards, technical documentation and engineering design skills. Students utilize mathematical operations (mathematical equations, graphs, and algebraic relationships) to optimize the outcome of engineering challenges, and apply their mathematical skills through a coding project using STEAM kits, all necessary for entry level positions in the above mentioned employment fields.</p>			

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Soils/Earthwork inspector	Certified field technician	Project engineer
Entry level construction materials testing technician	Engineering intern	Network engineer
HVAC technician	Manufacturing engineering technician	Business manager
Field technician	Aircraft technician	Architect
Tower technician	Refrigeration technician	Biomedical engineer
After school enrichment instructor	Engineering technician	Quality engineer
iOS apprentice	Operations coordinator	Solar project engineer

For more information visit: www.salinasuhd.org/rop

Introduction to Engineering Design: This course is designed to generate an interest in engineering and related occupations as career goals and expose students to the associated technologies through hands-on instruction and problem-solving activities. Scientific principles, mathematical concepts, and communication skills are taught through an activity oriented approach. Robotics, electronics, manufacturing processes, pneumatics, mechanisms, and computer design technologies will be explored by students. Student teams will progress through an articulated modular instructional system. This course is UC “g” (college preparatory elective) approved. Credits: 10

Principles of Engineering: Designed for 10th grade students who explore a broad range of engineering topics, including engineering achievements throughout history, career fields in engineering, mechanisms, energy and power, materials and structures, sketching techniques, automation, statistics, and kinematics. Students develop problem-solving skills as they complete research and design projects to create solutions to various engineering problems. Students document their work in the Engineering Notebook, and create a Professional Portfolio communicate their solutions and newly acquired skills to peers and members of the professional community. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Introduction to Engineering Design)** Credits: 10

Digital Electronics: Students investigate the digital circuit design process to create circuits and present solutions that can improve people’s lives. Digital Electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras, high definition televisions, etc. In contrast to analog electronics, where information is represented by a continuously varying voltage, digital signals are represented by two discrete voltages or logic levels. The major focus of the Digital Electronics course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards and technical documentation. This course is UC “g” (college preparatory elective) approved. Credits: 10

Engineering Design and Development: This course is the capstone course in the PLTW high school engineering program. It is an engineering research course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Digital Electronics)** Credits: 10

Functional Design Trough Algebra 1/2: This UCCI course engages students to discover the power of mathematical modeling. Through a variety of Engineering Design projects, students utilize mathematical operations to optimize the outcome of each challenge. Students will design parachutes, bungee jumps and boats. Students will document calculations, graphical relationships, sketches of prototypes and final designs in an engineering notebook that includes summaries of each project and ideas for future redesigns. By building understanding of mathematical

equations, graphs, and algebraic relationships, students will see how mathematical understanding can verify optimal performance and design in a variety of applications. This course is UC “c” (college preparatory mathematics) approved. Credits: 10

Functional Design Trough Algebra 3/4: Students continue to enhance their mathematical skills through specific engineering applications, like balloon rockets, a variety of water fountains, and, as a capstone project, a thermally resistant beverage container along with product proposal and pitch. Finally, students learn to apply their mathematical skills through a coding project using STEAM kits. Students will continue to document calculations, graphical relationships, sketches of prototypes and final designs in an engineering notebook that includes summaries of each project and ideas for future redesigns. By building understanding of mathematical equations, graphs, and algebraic relationships, students will see how mathematical understanding can verify optimal performance and design in a variety of applications including coding projects. **(Prerequisite: Functional Design Trough Algebra 1/2)** Credits: 10

HEALTH SCIENCE AND MEDICAL TECHNOLOGY SECTOR

Health Science and Medical Technology Sector						
Course Sequence	Dental Assisting Pathway	Medical Assisting Pathway	Nursing Pathway	Physical Therapy Pathway	Fitness and Sports Training Academy (FAST)	Sports Medicine
Introductory Course					Intro to Sports Medicine	
Concentrator Course	Dental Careers 1	Medical Assistant 1	Foundations of Nursing 1	Health Occupations	Physical Therapist Aide 1/2	Sports Medicine Athletic 1/2
Capstone Course	Dental Careers 2	Medical Assistant 2	Foundations of Nursing 2	Physical Therapy Aide	Sports Medicine 1/2	Sports Medicine Athletic Trainer

Sector description: The Health Science and Medical Technology Sector pathways are designed to prepare students for entry level positions as dental assistant in training, medical assistant, health aide or physical therapy aide or related fields. Students study skills as taking and recording of vital signs, processing and mounting radiographs, sterilizing instruments, dental terminology and basic laboratory procedures, front office procedures, patient intake process, Electronic Health Record, clinical procedures, medication administration, diagnostic procedures; communication skills, ethics, legalities, nutrition, fitness, patient observation, environmental and patient safety, body mechanics, patient interaction skills, minor physical therapy exercise, legal liability in the health field and insurance, care and prevention of athletic injuries, investigation, experimentation, data collection and data analysis, all necessary for entry level positions in dental assisting, medical assisting, nursing, physical therapy, sports medicine fields.

Certifications:



Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Dental Assistant in Training Dental-Lab Technician Trainee Medical Assistant Medical Receptionist Health Aide Physical Therapy Aide	Dental Assistant Registered Dental Hygienist Dental Technician Digital Technician - Dental Certified Medical Assistant (CMA) Medical Assistant Instructor Lab Technician Certified Nurse Aide (CNA)	Dental Lab Manager Associate Dentist Pharmacist Ultrasound technician Anesthesiologist Physician Assistant Radiologist Physical Therapist Associate Director of Sports Medicine

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Dental Careers 1: The dental assistant is a valuable member of the dental health team who performs many essential duties in the dental office. These duties may include preparing the patient for treatment, assisting the dentist in all procedures, recording of vital signs, processing and mounting radiographs, sterilizing instruments, dental terminology and basic laboratory procedures. The dental assistant may also assist in the front office by making appointments for patients, confirming appointments, and helping with other office records. All instruction is geared to chairside assisting, providing patient care, and related duties with minimal training in front office skills.

Students learn specific dental competencies, like the science of dentistry, oral health, infection prevention, occupational health, patient information and radiographic imaging. Students will have an opportunity to job-shadow in a local dental office. This course is UC "g" (college preparatory elective) approved. Credits: 10

Dental Careers 2: Students continue to learn learn specific dental competencies, like dental materials, assisting in dental care and dental administration and communication skills. Students will have an opportunity to job-shadow in a local dental office. This course is UC "g" (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR, Dental Radiology. **(Prerequisite: Dental Careers 1)** Credits: 10

Medical Assistant 1: The main purpose of this course is to train and equip students to be career and college ready. Upon completion of this course, students will be prepared for successful employment as a medical assistant in a back office setting or other related position through the medical office internship that students complete. Students also continue to aim for higher education towards Pre-Med, Physician Assistant, or any other medical career interest. Students will be exposed to both employment skills and critical thinking skills to develop the ability to adapt to the rapidly changing technological and social components of the workplace. Students will learn skills related to the patient intake process through the patients' check out, especially the clinical elements that are involved. Example skills learned are therapeutic communication, ethics, administrative procedures and medical billing and coding. Students participate in job shadowing at local clinics. This course is UC "g" (college preparatory elective) approved. Credits: 10

Medical Assistant 2: Students continue to be learn and be trained in skills like hands-on operation of Electronic Health Record, body systems, their structure and function, clinical procedures, medication administration, diagnostic procedures and are prepared for the National Medical Assisting Certification through NHA (National Healthcareer Associations). Students participate in job shadowing at local clinics. This course is UC "g" (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR, Bloodborne Pathogens, HIPAA, National Healthcareer Association. **(Prerequisite: Medical Assistant 1)** Credits: 10

Foundations of Nursing 1: This course provides entry level training leading to nurse assistant and home health aide certification. Instruction covers basic nursing skills, ethics and safety, communication skills and body mechanics.

Students participate in job shadowing at local nursing homes. This course is UC “g” (college preparatory elective) approved. Credits: 10

Foundations of Nursing 2: Students continue to be learn and be trained in skills like medical terminology, basic anatomy and physiology. Included are classroom, laboratory and clinical experiences. Upon successful completion of both, students are qualified to take the state written and clinical examinations. The Home Health Aide portion of the course consists of 20 hours of theory and 20 hours of clinical work, covering the following topics: Intro to Aide & Agency Role, interpretation of medical and social needs of clients. Personal care services, nutrition, and cleaning and care tasks in the home are covered as well as changing bed linen, preparing meals, assisting in and out of bed, bathing, dressing, and grooming. Students participate in job shadowing at local nursing homes. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR, iCEV communication. **(Prerequisite: Foundations of Nursing 1)** Credits: 10

Health Occupations: Prepares students for employment opportunities in the areas of diagnostic, supportive and therapeutic health services. Students will learn communication skills, ethics, legalities, medical terminology, anatomy, physiology, vital signs, nutrition, body mechanics, patient observation, environmental and patient safety, and weights and measures. Students participate in job shadowing at local hospitals. This course is UC “g” (college preparatory elective) approved. Credits: 10

Physical Therapy Aide: Prepares students in the necessary skills for assisting patients with their physical therapy program. Students will learn about anatomy and physiology, body positioning, body mechanics, vital signs, reporting, charting, communication skills, patient interaction skills, and how to apply minor physical therapy exercise in order to assist in rehabilitation of the patient. Employment opportunities may be found in hospitals, clinics, chiropractic offices, and convalescent care agencies. Students are offered the opportunity to job shadow at local rehabilitation centers. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR, iCEV communication. **(Prerequisite: Health Occupations)** Credits: 10

Intro to Sports Medicine: Focus is to introduce pathway students to various allied health careers, including EMT and Paramedic. The student's will obtain the knowledge of college degrees and the path that best suites them for their potential career choice. They will learn basic concepts of Organization and Administration as well as concepts of legal liability in the health field and insurance. Lastly they will get an introduction of the basic concepts of rehabilitation. This course is UC “g” (college preparatory elective) approved. Credits: 10

Physical Therapist Aide 1/2: Prepares pathway students in the necessary skills for assisting patients with their physical therapy program. Students will learn about anatomy and physiology, body positioning, body mechanics, vital signs, reporting, charting, communication skills, patient interaction skills, and how to apply minor physical therapy exercise in order to assist in rehabilitation of the patient. Employment opportunities may be found in hospitals, clinics, chiropractic offices, and convalescent care agencies. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Introduction to Sports Medicine)** Credits: 10

Sports Medicine 1/2: Provides pathway students with skills, knowledge, and experience in the areas of physical therapy, athletic training, nutrition, and fitness. Will focus on anatomy and physiology of various muscle groups, the skeletal system, theory of exercise, care and prevention of athletic injuries, rehabilitation, training room organization and skills. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR, Bloodborne Pathogens, HIPAA. **(Prerequisite: Physical Therapist Aide 1/2)** Credits: 10

Sports Medicine Athletic 1/2: Provides students with skills, knowledge, and experience in the areas of athletic physical therapy, training, nutrition, and fitness. Will focus on athletic perspective of anatomy and physiology of


various muscle groups, the skeletal system, theory of exercise, care and prevention of athletic injuries, rehabilitation, training room organization and skills. This course is UC “g” (college preparatory elective) approved. Credits: 10

Sports Medicine Athletic Trainer: Science standards based course; students will learn about the anatomy and physiology of stems, theories and methods of prevention, evaluation, management and rehabilitation body’s chemical response to pharmaceutical agents, disease, injury and stress will be pods of observation. Investigation, experimentation, data collection and data analysis will also be studied. Students are provided substantial opportunities techniques working with school athletes, athletic trainers and other practicing. This course is part of the Health Academy at NSHS. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR. **(Prerequisite: Sports Medicine Athletic 1/2)** Credits: 10

HOSPITALITY, TOURISM AND RECREATION SECTOR

Hospitality, Tourism and Recreation Sector			
Course Sequence	Food Science and Nutrition Pathway	Food Service and Hospitality Pathways	
Concentrator Course	Advanced Culinary Food Science 1	Culinary 1/2	Restaurant Careers 1
Capstone Course	Advanced Culinary Food Science 2	Culinary 3/4	Restaurant Careers 2

Sector description: The Food Science and Nutrition and Hospitality Pathways are designed to prepare students for entry level positions as cook, restaurant server and food service assistant or related fields. Students study skills as short order cooking and dining room service, preparing food including safety, sanitation, time and equipment management, safe practices, principles of cooking, various cooking recipes, professionalism, food safety, sanitation, buffet presentation, plate presentation and menu planning, proper hygiene and acceptable attire, proper cleaning procedures and methods of cooking, portion control in recipes, preparation of soups, salads, sandwiches, entrees, baked goods and beverages, techniques used in the hospitality industry, functions of the commercial kitchen and principles of nutrition according to the USDA Food Pyramid, all necessary for entry level positions in culinary and restaurant careers fields.

Certifications: 

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Restaurant servers Cook Food services assistant	Culinary Specialist Culinary Instructor Restaurant Chef CTE Instructor - Culinary Arts Food inspector Food critic/Writer	Restaurant manager Director of culinary services Food service director College Adjunct Culinary Instructor Microbiologist

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Advanced Culinary Food Science 1: This course is designed to prepare students for occupations in the culinary arts and hospitality industry. Learning includes both classroom and laboratory work. The classroom work is designed to teach the core curriculum as well as basic techniques used in the hospitality industry. The lab work is used to teach functions of the commercial kitchen, short order cooking and dining room service. Students will prepare food

for Advisory meetings, Staff and Catering Jobs. Students may also participate in SkillsUSA and/or other food competitions. This course is UC “g” (college preparatory elective) approved. Credits: 10

Advanced Culinary Food Science 2: This course continues to prepare students for occupations in the culinary arts and hospitality industry. Learning includes both classroom and laboratory work. The classroom work is designed to teach the core curriculum as well as advanced techniques used in the hospitality industry. The lab work is used to teach functions of the commercial kitchen, short order cooking and dining room service. Students will prepare food for Advisory meetings, Staff and Catering Jobs. Students may also participate in SkillsUSA and/or other food competitions. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: ServSafe. **(Prerequisite: Advanced Culinary Food Science 1)** Credits: 10

Culinary 1/2: Students learn to cook and serve a variety of foods and simple meals in a small group and find out how to make healthy food choices by applying nutrition basics, understanding food labels, and shopping wisely. Students will become skilled in the basic techniques necessary for preparing food including safety, sanitation, time and equipment management. These basic skills are necessary for careers in the foodservice industry. Credits: 10

Culinary 3/4 (Advanced Culinary): Students learn specific culinary, food service, food safety, sanitation and nutrition competencies, like safe practices, principles of cooking, various cooking recipes, professionalism, food safety, sanitation, buffet presentation, plate presentation and menu planning. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: ServSafe. **(Prerequisite: Culinary 1/2)** Credits: 10



Restaurant Careers 1: This course provides hands-on training and experience in entry-level food service through the on-site restaurant classroom. Students learn food service competencies, like knowledge of safe practices, proper food handling and storage, proper hygiene and acceptable attire, proper cleaning procedures and methods of cooking. Students also learn personal, interpersonal, thinking and problem solving and communication skills. The community classroom program exposes the students to additional work sites where they will receive “on-the-job” training and possible employment opportunities. This course is UC “g” (college preparatory elective) approved. Credits: 10

Restaurant Careers 2: This course continues to provide hands-on training and experience in entry-level food service through the on-site restaurant classroom. Students continue to learn specific food service competencies like portion control in recipes, prepare soups, salads, sandwiches, entrees, baked goods and beverages, and principles of nutrition according to the USDA Food Pyramid. Students also learn about employment awareness, like entry level position duties and requirements and seeking and maintaining employment. Finally, students continue to learn personal, interpersonal, thinking and problem solving, communication skills, occupational safety, employment literacy and technology literacy. The community classroom program exposes the students to additional work sites where they will receive “on-the-job” training and possible employment opportunities. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: ServSafe. **(Prerequisite: Restaurant Careers 1)** Credits: 10

INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR

Information and Communication Technology Sector			
Course Sequence	Computer Science Pathway	Networking Pathway	Software and Systems Development Pathway
Concentrator Course	Introduction to Computer Science	Intro Network Cable 1/2	Robotics Technology
Capstone Course	Computer Science 2	CISCO Advanced Networking	Robotics Engineering Technology

Sector description: The Computer Science, Networking and Software and Systems Development Pathways are designed to prepare students for entry level positions as computer maintenance technician apprentice, IT technician apprentice, robot service technician apprentice or related fields. Students study skills as development and use of algorithms, computer programming, computer hardware and software, operating systems, computer networking, robotic automation, engineering practices, CAD & CAM and science skills, all necessary for entry level positions in computer, IT or robotic automation fields.

Certifications:  

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Computer maintenance technician apprentice Computer support technician Customer service representative IT Technician apprentice Robot service technician apprentice Webmaster	Computer maintenance technician Computer report technician IT Technician Entry Level IT Analyst Software developer Robot service technician Robotics programmer Animator/Illustrator Game Programmer	Digital data forensic examiner Hardware engineer Software engineer Computer engineer Senior programmer Network engineer IT Manager Machine Learning engineer Automation engineer Robot support engineer Robotics engineer 3D Medical Animator Layout editor

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Introduction to Computer Science: Introduction to Computer Science emphasizes the teaching of logic and design and developing an understanding of basic programming. Students will learn about writing programs to perform simple tasks, learn basic animation and application development, and will cover such topics as JAVA, HTML and the use of graphical interfaces. There are no prerequisites for this course and no coding or programming experience is required. Embedded throughout the course are explorations into computer-using careers and ethical and social issues related to computers in the world today. This course is UC “g” (college preparatory elective) approved. Credits: 10

Computer Science 2: The Computer Science 2 curriculum offered through Mission Trails ROP/CTE program and part of the Computer Science Pathway is designed for students who seek to attend college and university level computer science courses. The curriculum is aligned with AP Computer Science Principles. This course instructs students to design, implement and analyze solutions to problems through the development and use of algorithms,

data structures and object-oriented programming. Students will be able to write, run, test and debug solutions in the Java programming language, utilizing standard java library classes and interfaces from the AP Java subset. Also, students will be able to read and understand programs consisting of several classes and interacting objects and understand a description of the design and development process leading to such a program. Students will also learn about Computer Science careers and explore opportunities in the Computer Science industry. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Introduction to Computer Science)** Credits: 10

Intro Network Cable 1/2 (CISCO Networking - IT Essentials): The Cisco® IT Essentials curriculum is designed for Cisco Networking Academy® students in upper secondary schools, technical schools, and colleges or universities who want to pursue careers in IT and learn how computers work, how to assemble computers, and how to troubleshoot hardware and software issues. The goal of this course is to introduce the student to computer hardware and software, as well as operating systems, networking concepts, mobile devices, IT security, and troubleshooting. The online course materials will assist the student in developing the skills necessary to work as a technician in the field of IT. This course prepares students for the CompTIA IT Fundamentals + certification. Articulated with Diablo Valley College CNT 104 course. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: CompTIA IT Fundamentals +. Credits: 10

CISCO Advanced Networking (CISCO Networking - Introduction to Networks): The Cisco CCNA® Routing and Switching curriculum is designed for students who are seeking entry-level jobs in the ICT industry and want to build a foundation for success in computer networking-related careers and degree programs. This course provides an integrated and comprehensive coverage of computer networking topics, from fundamentals to advanced applications and services, while providing opportunities for hands-on practical experience and career skills development. Students will be prepared to take the Cisco CCENT® certification exam after completing this course and the Routing and Switching course. Articulated with Diablo Valley College CNT 106 course. This course is UC “g” (college preparatory elective) approved. **(Prerequisite: Introduction to Network Cable 1/2)** Credits: 10

Robotics Technology: This introductory level robotics course explores the relation between science and technology. The program is designed to enrich students' knowledge with the following fundamental topics: safety practices in the robotics laboratory, robotic automation in the manufacturing industry, the history and application of technology and engineering as it applies to robotics, engineering practices, robot energy sources, basic Kinematics, Dynamics, Pneumatic and Electricity principles, computer programming of robots in C language, interfacing software and hardware. Basic tool usage is also studied (use proper tools, calipers, micrometers, understand properties of materials and assembly techniques). Lab experiments require groups of students to apply the learned concept by building and testing complex VEX based mobile robots. Students will work in small groups to design, build and program robotic devices that will be used in both school and regional competitions. Integrated in this course are career preparation standards, including basic academic, communication, problem solving and critical thinking skills as well as safety, technology and employment literacy. This course is UC “g” (college preparatory elective) approved. Credits: 10



Robotics Engineering Technology (II): The Robotics Course is designed to be a capstone applications course for robotics engineering students. It will build upon prior skills learned such as applied math & physical science techniques, CAD & CAM skills and other engineering fundamentals. New competencies will include programming techniques and applications including sensor feedback loops and control system design. Additionally, design of mechanical systems powered by DC motors, pneumatics and elastic potential energy will be integrated. Some specific topics covered will be: mechanism design for manipulators and mobile robots, 3D graphic simulation, control design, actuators and sensors, task modeling, human-machine interface, and embedded software. Upon completion of the course students will be able to solve electromechanical design problems with both

human controlled and autonomous solutions. This course prepares students for Autodesk Inventor Certified User certification. This course is UC “d” (college preparatory laboratory science) approved. Certifications offered for qualified students: Autodesk Certified User. **(Prerequisite: Robotics Technology)** Credits: 10

MANUFACTURING AND PRODUCT DEVELOPMENT SECTOR

Manufacturing and Product Development Sector		
Course Sequence	Welding Pathway	Drafting Pathway
Introductory Course		Pre-Engineering
Concentrator Course	Industrial Welding and Metal Fabrication 1	Drafting Technology 1/2
Capstone Course	Industrial Welding and Metal Fabrication 2	Drafting Technology 3/4

Sector description: The Welding and Drafting Pathways are designed to prepare students for entry level positions as welding apprentice or industrial drafter trainee or related fields. Students study skills as reading blueprints, cutting and welding metal, manufacturing processes, mechanisms, planning, preparation, interpreting and preparation of engineering and architectural drawings using drafting tools and CAD software, all necessary for entry level positions in welding or industrial drafting fields.

Certifications:  

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Welder helper Mechanical helper Welding apprentice Industrial drafter trainee	Manufacturing technician Entry level quality control inspector Welding inspector Entry level CAD drafter CAD technician	Welding engineer Quality control engineer Mechanical Engineer Associate Foundry Engineer CAD designer

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Industrial Welding and Metal Fabrication 1: Students learn to read blueprints, interpret welding symbols, cut metal and weld metal. Welding training is offered in: Shield Metal (Stick), Mig, Tig. Metal cutting training includes Plasma Arc cutting. Articulated with Hartnell College WLD 150 course. This course is UC “g” (college preparatory elective) approved. Credits: 10

Industrial Welding and Metal Fabrication 2: Students continue to learn to read blueprints, interpret welding symbols, cut metal and weld metal. Welding training is offered in: Oxy/Gas. Metal cutting training includes Oxy/Gas and Plasma Arc cutting. Articulated with Hartnell College WLD 150 course. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: OSHA 10 Hour Safety. **(Prerequisite: Industrial Welding and Metal Fabrication 1)** Credits: 10


Pre-Engineering: This course is designed to generate an interest in Engineering and related occupations as career goals and expose students to the associated technologies through hands-on instruction and problem-solving activities. Scientific principles, mathematical concepts, and communication skills are taught through an activity

oriented approach. Robotics, electronics, manufacturing processes, pneumatics, mechanisms, and computer design technologies will be explored by students. Student teams will progress through an articulated modular instructional system. This course is UC “g” (college preparatory elective) approved. Credits: 10

Drafting Technology (1/2): This course is open to all students and is recommended for 9th and 10th graders. This program prepares individuals to plan, prepare, and interpret engineering and architectural drawings. Drafting prepares a student for occupations such as construction trades, architectural careers, engineer, interior design, and other technology based opportunities. Students will be given the opportunity to create engineering or architectural models through hands on activities. Articulated with Hartnell College CMA 81 course. **(Prerequisite: Pre-Engineering)** Credits: 10

Drafting Technology (3/4): This course instructs students on the identification of drafting terminology and symbols. Students will use drafting tools, computers and AutoCAD software to produce industrial drawings. Students will gain more experience in engineering drawings and architectural plans. Further emphasis will be given to CAD/CAM activities. Articulated with Hartnell College CMA 81 course. Certifications offered for qualified students: Autodesk Certified User **(Prerequisite Drafting Technology 1/2)** Credits: 10

MARKETING SALES AND SERVICE SECTOR

Marketing Sales and Service Sector								
Course Sequence	Professional Sales Pathway							
Concentrator Course	Retail Sales and Marketing							
Capstone Course	Retail Co-Op							
<p>Sector description: The Professional Sales Pathway is designed to prepare students for entry level positions as a sales assistant or related fields. Students study skills like sales, customer service, communications, telephone techniques, register operation, making change, and display basics, all necessary for entry level positions in general retail sales.</p> <p>Certifications: </p> <p>Employment opportunity:</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left;">Entry Level (w/H.S. diploma)</th> <th style="text-align: left;">Technical Level (w/AA or AS or certificate)</th> <th style="text-align: left;">Professional Level (w/BA or BS degree)</th> </tr> </thead> <tbody> <tr> <td>Sales Assistant Retail Sales Associate</td> <td>Assistant Sales Manager Sales Manager Assistant Internet Sales Manager Automotive Sales Manager</td> <td>Orthopedic Sales Associate Sales Engineer Internet Sales Coordinator</td> </tr> </tbody> </table> <p>For more information visit: www.salinasuhsd.org/rop</p>			Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)	Sales Assistant Retail Sales Associate	Assistant Sales Manager Sales Manager Assistant Internet Sales Manager Automotive Sales Manager	Orthopedic Sales Associate Sales Engineer Internet Sales Coordinator
Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)						
Sales Assistant Retail Sales Associate	Assistant Sales Manager Sales Manager Assistant Internet Sales Manager Automotive Sales Manager	Orthopedic Sales Associate Sales Engineer Internet Sales Coordinator						

Retail Sales and Marketing: Trains students to meet entry-level requirements for jobs in general retail sales and related fields. Students will develop skills in the classroom setting, which will be applied in the practical setting of a work internship. This course is UC “g” (college preparatory elective) approved. Credits: 20




Retail Co-Op: Provides a unique combination of related classroom instruction and paid “on-the-job” training. For students 16 years or older who are working in one of the above areas and would like to earn up to 10 credits for the

semester. All students must attend one class per week. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: ServSafe. **(Prerequisite: Retail Sales & Marketing)** Credits: 20

PUBLIC SERVICE SECTOR

Public Service Sector			
Course Sequence		EMT/EMR Pathway	Fire Science Pathway
Concentrator Course		Emergency Medical Response (EMR)	Intro to Firefighter
Capstone Course		Emergency Medical Technician (EMT)	Fire Science Technology

Sector description: The EMT/EMR and Fire Science Pathways are designed to prepare students for entry level positions as a firefighter recruit, dispatcher, etc. Students study EMT/EMR and firefighting practices. The EMT dual enrolled course prepares students for the EMT National Registry Test.

Certifications:   

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Firefighter recruit Dispatcher	Firefighter EMT Firefighter/EMT Emergency Department Technician	Arson Investigator Fire Captain

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Emergency Medical Response (EMR): Students will be introduced to all the major areas of study in emergency medical service systems from the perspective of an Emergency Medical Responder (EMR) and will include specifically anatomy and physiology of the human body, EMR principles of emergency medical and trauma care, safety precautions and special considerations for working in the prehospital setting.. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR certified. Credits: 10

Emergency Medical Technician (EMT): Prepare students to take and pass the State of California EMT Certification Test. Students will learn all phases of basic life support and emergency medical services. Dual Enrolled with Hartnell College EMT 23 course. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR certified, EMT. **(Prerequisite: EMR)** Credits: 10

Intro to Firefighter: Prepares students to pursue a career as a Firefighter. Students will learn many day to day aspects of routine firefighter duties. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR certified. Credits: 10



Fire Science Technology: Students will learn basic firefighter theory and skills. Topics covered will include fire science, agency organization, regulations, and functions, firefighter safety, characteristics and behavior of fire and

fire prevention and control. This course is UC “g” (college preparatory elective) approved. Certifications offered for qualified students: First Aid, CPR certified. **(Prerequisite: Intro to Firefighter)** Credits: 10

TRANSPORTATION SECTOR

Transportation Sector		
Course Sequence	Engine Maintenance & Repair Pathway	Auto Service Pathway
Concentrator Course	Engine Maintenance and Repair 1	Auto Service 1
Capstone Course	Engine Maintenance and Repair 2	Auto Service 2

Sector description: The Engine Maintenance and Repair and Auto Service Pathways are designed to prepare students for entry level positions as a mechanic’s assistant or related fields. Students study shop safety, the use of basic hand tools, select, store and apply fuels and lubricants, engine and automotive maintenance, service and repair.

Certifications:  

Employment opportunity:

Entry Level (w/H.S. diploma)	Technical Level (w/AA or AS or certificate)	Professional Level (w/BA or BS degree)
Automotive Technician Apprentice Entry Level Technician Small engine mechanic	Automotive Technician Automotive Mechanic Heavy Diesel Technician Transportation Inspector	Design Engineer Production Manager Manufacturing manager

For more information visit: www.salinasuhd.org/rop

Engine Maintenance and Repair 1: Learn job search skills, use basic hand tools, shop safety, start and stop gasoline and diesel engines, maintenance skills, minor repairs, select, store and apply fuels and lubricants, perform maintenance tasks. Credits: 10

Engine maintenance and Repair 2: Learn engine performance, identify the parts of the engine, troubleshoot the engine, computer control system, electrical repairs, steering repairs and general lubrications services for 2-stroke and 4-stroke small engines, identify parts of the powertrain, forklift training. Students will be able to safely operate and maintain tractors. Certifications offered for qualified students: OSHA 10 Hour Safety, OSHA Forklift. **(Prerequisite: Engine Maintenance and Repair 1)** Credits: 10

Auto Service 1: Students are introduced to automobile service and repair, shop safety, engine repair, automatic transmissions and transaxles, manual drivetrain and axles, suspension and steering, brakes, electrical and electronic systems, heating and air conditioning, and engine performance. After completion of this course, students will be prepared for majors in automotive systems and repairs at college and for an entry level position in today’s automotive services industry. They will also be prepared to advance to Auto Service 2: Intermediate Automotive Systems, Diagnostics, Service, and Repair. Articulated with Hartnell College AUT 103 course. This course is UC “g” (college preparatory elective) approved. Credits: 10

Auto Service 2: Students continue to learn about automobile service and repair, shop safety, engine repair, automatic transmissions and transaxles, manual drivetrain and axles, suspension and steering, brakes, electrical and electronic systems, heating and air conditioning, and engine performance. After completion of this course, students will be prepared for postsecondary automotive education, an entry level position in today's automotive services industry, beginning ASE (Automotive Service Excellence) certification, and will have completed the NATEF (National Automotive Technicians Education Foundation) curriculum. This course will also provide students with the opportunity to apply and extend concepts studied in their math and science classes (related to algebra, arithmetic, physics, and electrical, computer, and chemical sciences) to the automotive technology industry. In addition, students write research, expository, and reflective entries that align with Common Core Standards. Articulated with Hartnell College AUT 103 course. This course is UC "g" (college preparatory elective) approved. **(Prerequisite: Auto Service 1)**
Credits: 10

GENERAL INFORMATION SECTION

CAREER AND TECHNICAL EDUCATION. Career and Technical Education is a program of study that involves a multiyear sequence of courses that integrates core academic knowledge with technical and occupational knowledge to provide students with a pathway to postsecondary education and careers. Our courses teach high school students to succeed in careers and college in a professional, hands-on environment. Courses are offered within a variety of industry sectors where students can explore and develop technical skills that will lead them to higher education or into the workplace.

PLANNING FOR COLLEGE SECTION

DUAL ENROLLMENT: Select college courses will be offered at the high school campuses for students to enroll in. Students can earn both high school and college credits in these courses. Credit is free. Please see your counselor for additional information.

ARTICULATION (CREDIT BY EXAM): Select CTE/ROP courses are eligible for students to apply for college credit upon completion of the high school course with a grade of 'B' or better. Credit is free. Please see your counselor for additional information.