

LEARN MORE. EARN MORE.

CAREER EDUCATION GUIDE 2020

SAN DIEGO & IMPERIAL COUNTIES COMMUNITY COLLEGES



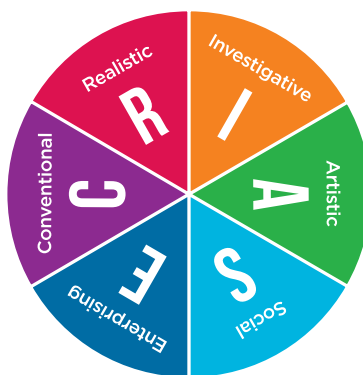
DEAR EDUCATORS AND COUNSELORS

A MESSAGE FROM THE SAN DIEGO AND IMPERIAL COUNTIES REGIONAL STRONG WORKFORCE PROGRAM:

Preparing students to be college and career ready gives you the opportunity to help students identify their personal interests and values as they relate to career choices. Students need assistance in their career development journey (self-awareness, career awareness, career exploration, career preparation, career training) so they can make informed postsecondary and career decisions. Our hope is that you will use this Career Education Guide to help students align their interests and values with career pathways that will lead them to careers in high-wage, in-demand industry sectors. Students may already be interested in an industry sector or career pathway and the Guide can give them information about the education and skills necessary to be successful.

New to the Guide this year are embedded references to the RIASEC Holland Codes, or six interest areas. The abbreviation RIASEC refers to:

(R) Realistic
(I) Investigative
(A) Artistic
(S) Social
(E) Enterprising
(C) Conventional



We understand there are many career assessments available in a practitioner's toolbox. Since many career assessments organize by Holland Codes, we have used them in the Guide to designate which interest categories correlate with each industry sector. As any skilled practitioner knows, these codes are not to be used in isolation but rather in consultation with a qualified counselor who can assist in interpreting career assessment results and take the time to understand a student's unique circumstances and needs.

In the back of the Guide are helpful websites you can use to access free career exploration tools as well as career assessments. Understanding a student's interests will aid you in helping to plan a student's coursework to complete career pathways offered by your site or district. There is also a link to the San Diego and Imperial Counties Community Colleges Career Education website, careered.org, where information about training for in-demand careers can be found to help students with their postsecondary education plans.

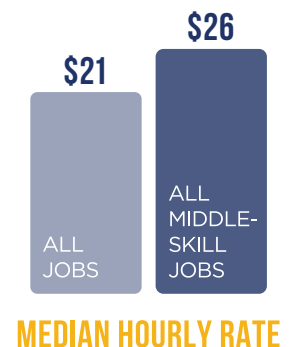
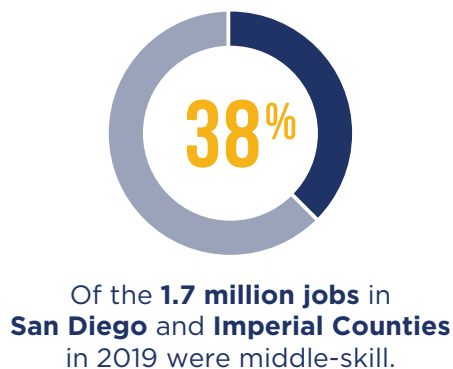
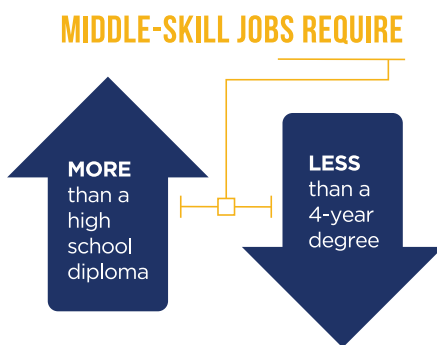
MIDDLE-SKILL JOBS DRIVE THE ECONOMY



Businesses need more qualified candidates to fill good-paying middle-skill positions. Career Education at the San Diego and Imperial Counties Community Colleges holds the key to unlock these growing, in-demand jobs.

THE OPPORTUNITY

Middle-skill jobs are large and growing—and these jobs pay well.



THE REASON

Career Education gives students a wide variety of program choices at multiple campuses—at a fraction of the cost.

OVER 200 PROGRAMS AND 10 COMMUNITY COLLEGES

1 MiraCosta College	6 Cuyamaca College
2 Palomar College	7 San Diego City College
3 San Diego Miramar College	8 San Diego Continuing Ed.
4 Grossmont College	9 Southwestern College
5 San Diego Mesa College	10 Imperial Valley College

\$46

per credit

Community Colleges
are the best value.

THE JOBS

Career Education can quickly launch you into these careers.

71%

of graduates
ARE EMPLOYED
ONE YEAR AFTER
finishing their program

ADVANCE YOUR CAREER BY



BUILDING
YOUR SKILLS



EARNING A
CERTIFICATE



OBTAINING AN
ASSOCIATE DEGREE

TOP IN-DEMAND SECTORS

- 1 Advanced Manufacturing
- 2 Advanced Transportation & Logistics
- 3 Agriculture, Water, & Environmental Technologies
- 4 Business & Entrepreneurship
- 5 Energy, Construction, & Utilities
- 6 Health
- 7 Information & Communication Technologies (ICT) & Digital Media
- 8 Life Sciences & Biotechnology

GET CONNECTED

STUDENTS

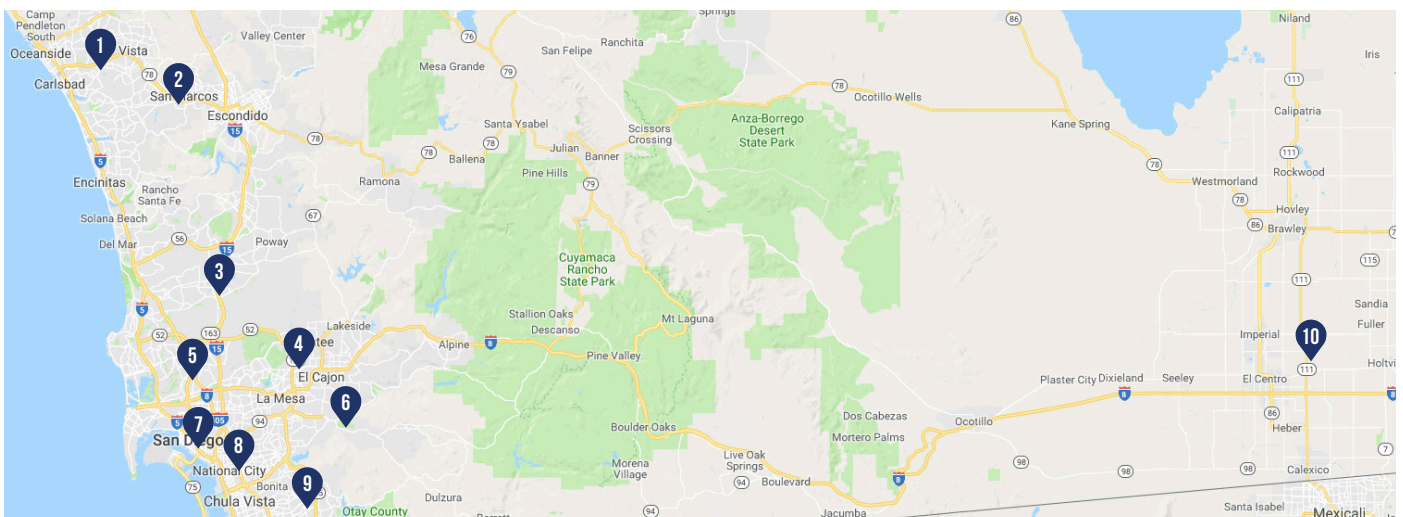


CAREER EDUCATION

TRAINING
WORK EXPERIENCE
JOB PLACEMENT



EMPLOYERS



ADVANCED MANUFACTURING

The rise of automation, or “Industry 4.0,” is here, transforming factories across the globe using cutting-edge technologies, artificial intelligence, real-time data collection and collaborative robots in building a wide range of products to meet the today’s needs and tomorrow’s challenges. High-tech manufacturing (or Advanced Manufacturing) jobs continue to grow, especially in the areas of additive manufacturing, lean manufacturing, robotics and automation, industrial internet of things, digital transformation, predictive maintenance, precision machining and engineering.

Because robots and automation take care of the repetitive work, today’s manufacturing employees have more challenging and interesting job assignments. Employers in this sector look for technicians, technologists and engineers who are both at ease in the mechanical world, and looking to take on the challenge of moving into a cyber-physical world by applying scientific and technical principles to manufacturing processes. Opportunities for advancement are plentiful as technological advancements make higher-skill jobs in product design, process engineering, operations, maintenance, and lab work more prevalent.



CAREER EDUCATION GUIDE



FAST FACTS*



92,818

people employed



1% (654)

5-year projected job growth



3,075

businesses



\$96,114

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

(R) Realistic

(I) Investigative

Please reference page 3 for more information about RIASEC





ADVANCED MANUFACTURING | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 (i.e., living wage) and a labor market demand of at least 50 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	Entry-level Hourly Rate (Salary)
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	\$16 (\$33K)
Cabinetmakers and Bench Carpenters	\$16 (\$33K)
Computer-Controlled Machine Tool Operators, Metal and Plastic	\$16 (\$33K)
Cutting and Slicing Machine Setters, Operators, and Tenders	\$14 (\$29K)
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$15 (\$31K)
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	\$14 (\$29K)
First-Line Supervisors of Production and Operating Workers	\$24 (\$50K)
Industrial Machinery Mechanics	\$23 (\$48K)
Machinists	\$16 (\$33K)
Maintenance and Repair Workers, General	\$16 (\$33K)
Mixing and Blending Machine Setters, Operators, and Tenders	\$14 (\$29K)
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	\$12 (\$25K)
Printing Press Operators	\$13 (\$27K)
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	\$15 (\$31K)
Sheet Metal Workers	\$24 (\$50K)
Structural Iron and Steel Workers	\$23 (\$48K)
Structural Metal Fabricators and Fitters	\$17 (\$35K)
Welders, Cutters, Solderers, and Brazers	\$18 (\$37K)
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD	
Aircraft Mechanics and Service Technicians	\$27 (\$56K)
Computer, Automated Teller, and Office Machine Repairers	\$14 (\$29K)
Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$27 (\$56K)
ASSOCIATE DEGREE	
Aerospace Engineering and Operations Technicians	\$26 (\$54K)
Civil Engineering Technicians	\$18 (\$37K)
Electrical and Electronics Engineering Technicians	\$26 (\$54K)
Engineering Technicians, Except Drafters, All Other	\$27 (\$56K)
Industrial Engineering Technicians	\$28 (\$58K)
Mechanical Drafters	\$25 (\$52K)
Mechanical Engineering Technicians	\$20 (\$42K)
BACHELOR'S DEGREE OR HIGHER	
Aerospace Engineers	\$39 (\$81K)
Civil Engineers	\$31 (\$64K)
Computer Hardware Engineers	\$49 (\$102K)
Electrical Engineers	\$40 (\$83K)
Electronics Engineers, Except Computer	\$50 (\$104K)
Engineers, All Other	\$41 (\$85K)
Industrial Engineers	\$37 (\$77K)
Industrial Production Managers*	\$39 (\$81K)
Mechanical Engineers	\$37 (\$77K)
Purchasing Managers*	\$49 (\$102K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

ADVANCED TRANSPORTATION & LOGISTICS

The Advanced Transportation & Logistics sector is responsible for ensuring that people and things get to the right place, at the right time, for the right price. Using cutting-edge technologies and processes, people in this sector are called on to move people and products from point A to point B by air, land and sea. It takes people with all different talents, skills, and training to keep things moving. Areas of projected market growth include the use of Global Positioning Systems (GPS), Geographic Information Systems (GIS), and Radio Frequency Identification (RFID), developments in rocket technology, super-capacity jet airplanes, hybrid and hydrogen fuel-cell technology, and the use of bio-diesel and other alternative fuels. As vehicle components and repair techniques become increasingly sophisticated, this sector will continuously need transportation professionals. Because of the significant role that transportation plays in our personal and professional lives, there is a wide range of occupations in the sector, from technical to managerial positions.



CAREER EDUCATION GUIDE



FAST FACTS*



57,501

people employed



5% (2,816)

5-year projected job growth



3,992

businesses



\$61,530

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

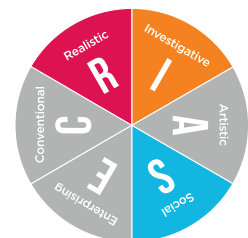
RIASEC

(R) Realistic

(I) Investigative

(S) Social

Please reference page 3 for more information about RIASEC





ADVANCED TRANSPORTATION & LOGISTICS | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 and a labor market demand of at least 50 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

NO FORMAL EDUCATIONAL CREDENTIAL + ADDITIONAL TRAINING		Entry-level Hourly Rate (Salary)
Industrial Truck and Tractor Operators		\$15 (\$31K)
Motor Vehicle Operators, All Other		\$12 (\$25K)
Sailors and Marine Oilers		\$13 (\$27K)
HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING		
Automotive Body and Related Repairers		\$12 (\$25K)
Bus and Truck Mechanics and Diesel Engine Specialists		\$21 (\$44K)
Bus Drivers, School or Special Client		\$14 (\$29K)
Bus Drivers, Transit and Intercity		\$14 (\$29K)
Cargo and Freight Agents		\$15 (\$31K)
Commercial Pilots		\$32 (\$67K)
First-Line Supervisors of Mechanics, Installers, and Repairers		\$26 (\$54K)
First-line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors		\$19 (\$40K)
Procurement Clerks		\$20 (\$42K)
Production, Planning, and Expediting Clerks		\$20 (\$42K)
Sales Representatives, Services, All Other		\$17 (\$35K)
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products		\$18 (\$37K)
Shipping, Receiving, and Traffic Clerks		\$13 (\$27K)
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD		
Aircraft Mechanics and Service Technicians		\$27 (\$56K)
Automotive Service Technicians and Mechanics		\$15 (\$31K)
Captains, Mates, and Pilots of Water Vessels		\$23 (\$48K)
Heavy and Tractor-Trailer Truck Drivers		\$16 (\$33K)
ASSOCIATE DEGREE		
Air Traffic Controllers		\$54 (\$112K)
Avionics Technicians		\$28 (\$58K)
BACHELOR'S DEGREE OR HIGHER		
Airline Pilots, Copilots, and Flight Engineers		\$75 (\$156K)
Business Operations Specialists, All Other*		\$27 (\$56K)
Buyers and Purchasing Agents*		\$23 (\$48K)
Compliance Officers*		\$27 (\$56K)
Cost Estimators*		\$26 (\$54K)
Logisticians*		\$32 (\$67K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES

As California's population continues to grow, the state's agricultural, water and environmental resources are more important than ever. Agriculture alone is a \$47 billion-dollar industry in California, making our state the most prolific agricultural producer in the U.S. To meet the growing demand for these resources, companies are rapidly adopting new technologies and sustainable practices, and need workers to drive improvements in the sector. Careers in this sector range from turf management at municipal golf courses to research in biological sciences. Employees may work in a lab, on a farm, ranch, dairy, orchard, greenhouse, plant nursery, or in a veterinary office.



CAREER EDUCATION GUIDE



FAST FACTS*



23,182

people employed



6% (1,416)

5-year projected job growth



1,525

businesses



\$57,292

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

(R) Realistic

(I) Investigative

Please reference page 3 for more information about RIASEC





AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 (i.e., living wage) and a labor market demand of at least 10 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

NO FORMAL EDUCATIONAL CREDENTIAL + ADDITIONAL TRAINING		Entry-level Hourly Rate (Salary)
Agricultural Equipment Operators		\$13 (\$27K)
Agricultural Workers, All Other		\$20 (\$42K)
Grounds Maintenance Workers, All Other		\$17 (\$35K)
HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING		
Animal Breeders		\$22 (\$46K)
Earth Drillers, Except Oil and Gas		\$22 (\$46K)
Farmers, Ranchers, and Other Agricultural Managers		\$19 (\$40K)
First-Line Supervisors of Farming, Fishing, and Forestry Workers		\$15 (\$31K)
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers		\$16 (\$33K)
Pest Control Workers		\$13 (\$27K)
Pesticide Handlers, Sprayers, and Applicators, Vegetation		\$13 (\$27K)
Stationary Engineers and Boiler Operators		\$28 (\$58K)
Tree Trimmers and Pruners		\$16 (\$33K)
Water and Wastewater Treatment Plant and System Operators		\$27 (\$56K)
ASSOCIATE DEGREE		
Agricultural and Food Science Technicians		\$18 (\$37K)
Environmental Engineering Technicians		\$23 (\$48K)
Environmental Science and Protection Technicians, Including Health		\$21 (\$44K)
Forest and Conservation Technicians		\$16 (\$33K)
BACHELOR'S DEGREE OR HIGHER		
Agricultural Inspectors*		\$27 (\$56K)
Environmental Engineers		\$36 (\$75K)
Environmental Scientists and Specialists, Including Health		\$28 (\$58K)
Food Scientists and Technologists		\$27 (\$56K)
Geoscientists, Except Hydrologists and Geographers		\$35 (\$73K)
Hydrologists		\$39 (\$81K)
Physical Scientists, All Other		\$41 (\$85K)
Soil and Plant Scientists		\$27 (\$56K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

BUSINESS & ENTREPRENEURSHIP

Regardless of the industry, every company needs people to account for finances, manage personnel, and sell products. Persons trained in sectors such as business, management, marketing, sales, and financial services (e.g., accounting, banking, investing) will find that their skills are highly marketable. Individuals interested in running their own businesses must master financial literacy and develop skills in mathematics, organization, time management, customer service, and communication. Within this sector, professionals are responsible for maximizing the experiences of customers, generating digital sales and traffic, managing personnel, and developing brands and products. Advances in technology, as well as market globalization and the expansion of banking and investment institutions around the world, will continue to create exciting and challenging career opportunities in this sector for the foreseeable future.



CAREER EDUCATION GUIDE



FAST FACTS*



213,859

people employed



4% (9,295)

5-year projected job growth



20,867

businesses



\$91,480

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

(I) Investigative

(A) Artistic

(S) Social

(E) Enterprising

(C) Conventional



Please reference page 3 for more information about RIASEC



BUSINESS & ENTREPRENEURSHIP | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 (i.e., living wage) and a labor market demand of at least 90 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	Entry-level Hourly Rate (Salary)
Bill and Account Collectors	\$16 (\$33K)
Billing and Posting Clerks	\$18 (\$37K)
Claims Adjusters, Examiners, and Investigators	\$25 (\$52K)
Customer Service Representatives	\$14 (\$29K)
Executive Secretaries and Executive Administrative Assistants	\$25 (\$52K)
First-Line Supervisors of Office and Administrative Support Workers	\$22 (\$46K)
Information and Record Clerks, All Other	\$20 (\$42K)
Insurance Claims and Policy Processing Clerks	\$16 (\$33K)
Insurance Sales Agents	\$20 (\$46K)
Legal Secretaries	\$21 (\$44K)
Loan Interviewers and Clerks	\$16 (\$33K)
Payroll and Timekeeping Clerks	\$21 (\$44K)
Property, Real Estate, and Community Association Managers	\$22 (\$46K)
Real Estate Brokers	\$23 (\$48K)
Real Estate Sales Agents	\$16 (\$33K)
Sales and Related Workers, All Other	\$14 (\$29K)
Sales Representatives, Services, All Other	\$17 (\$35K)
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$18 (\$37K)
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$16 (\$33K)
Tax Preparers	\$17 (\$35K)
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD	
Bookkeeping, Accounting, and Auditing Clerks	\$17 (\$35K)
ASSOCIATE DEGREE	
Human Resources Assistants, Except Payroll and Timekeeping	\$18 (\$37K)
BACHELOR'S DEGREE OR HIGHER	
Accountants and Auditors	\$28 (\$58K)
Administrative Services Managers*	\$34 (\$71K)
Buyers and Purchasing Agents*	\$23 (\$48K)
Chief Executives	\$55 (\$114K)
Compliance Officers	\$27 (\$56K)
Financial Analysts	\$30 (\$62K)
Financial Managers*	\$43 (\$89K)
Fundraisers	\$18 (\$37K)
Human Resources Managers*	\$45 (\$94K)
Human Resources Specialists*	\$23 (\$48K)
Lawyers	\$38 (\$79K)
Loan Officers*	\$20 (\$42K)
Management Analysts	\$29 (\$60K)
Managers, All Other*	\$29 (\$60K)
Market Research Analysts and Marketing Specialists	\$21 (\$44K)
Marketing Managers	\$44 (\$92K)
Personal Financial Advisors	\$30 (\$62K)
Securities, Commodities, and Financial Services Sales Agents	\$19 (\$40K)
Training and Development Specialists*	\$25 (\$52K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

ENERGY, CONSTRUCTION & UTILITIES

The United States is not only one of the world's leading suppliers of energy, it is also one of its largest consumers. With the increase of public and governmental interest in renewable energy, clean energy generation, and energy efficiency, job opportunities are growing rapidly, especially with the existing workforce expected to retire in the upcoming years. Firms in this sector need people who can work with their heads and hands to design and build office buildings, hospitals, shopping malls, and housing communities. Once architects come up with a design, it takes a team of skilled people such as plumbers, electricians, masons, roofers, framers and more to turn it into a finished structure. Craftsmen in this industry sector need a strong math background, good technology skills, and solid on-the-job experience.



CAREER EDUCATION GUIDE



FAST FACTS*



132,037

people employed



8% (10,357)

5-year projected job growth



9,504

businesses



\$83,126

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

(R) Realistic

(I) Investigative

(C) Conventional



Please reference page 3 for more information about RIASEC



ENERGY, CONSTRUCTION & UTILITIES | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile to 75th percentile earnings, which represent wages from entry-level to experienced workers, respectively. Only occupations with median earnings of at least \$15.99 per hour (i.e., living wage) and a labor market demand of at least 50 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

NO FORMAL EDUCATIONAL CREDENTIAL + ADDITIONAL TRAINING	Entry-level Hourly Rate (Salary)
Carpet Installers	\$13 (\$27K)
Cement Masons and Concrete Finishers	\$21 (\$44K)
Construction Laborers	\$13 (\$27K)
Drywall and Ceiling Tile Installers	\$21 (\$44K)
Fence Erectors	\$15 (\$31K)
Floor Layers, Except Carpet, Wood, and Hard Tiles	\$14 (\$29K)
Insulation Workers, Floor, Ceiling, and Wall	\$15 (\$31K)
Painters, Construction and Maintenance	\$13 (\$27K)
Plasterers and Stucco Masons	\$23 (\$35K)
Roofers	\$17 (\$35K)
Tapers	\$21 (\$44K)
Tile and Marble Setters	\$15 (\$31K)
HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	
Brickmasons and Blockmasons	\$16 (\$33K)
Carpenters	\$16 (\$33K)
Construction and Building Inspectors	\$24 (\$50K)
Electricians	\$20 (\$42K)
First-Line Supervisors of Construction Trades and Extraction Workers	\$28 (\$58K)
Glaziers	\$23 (\$48K)
Highway Maintenance Workers	\$20 (\$42K)
Maintenance Workers, Machinery	\$20 (\$42K)
Paving, Surfacing, and Tamping Equipment Operators	\$20 (\$42K)
Plumbers, Pipefitters, and Steamfitters	\$20 (\$42K)
Reinforcing Iron and Rebar Workers	\$19 (\$40K)
Security and Fire Alarm Systems Installers	\$20 (\$42K)
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD	
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$21 (\$44K)
ASSOCIATE DEGREE	
Architectural and Civil Drafters	\$25 (\$52K)
Electrical and Electronics Drafters	\$22 (\$46K)
Geological and Petroleum Technicians	\$24 (\$50K)
BACHELOR'S DEGREE OR HIGHER	
Architects, Except Landscape and Naval	\$28 (\$58K)
Architectural and Engineering Managers	\$61 (\$127K)
Construction Managers*	\$31 (\$65K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

HEALTH

Students interested in making a difference in people's lives and seeking to secure "recession-resilient" careers should consider exploring health-related occupations. It is projected that jobs in the health field will continue to increase due to the aging and growing population. The medical and health industry is one of the fastest growing economic industry sectors in California, employing nearly 1.4 million professionals across a wide range of well-paying career opportunities. Surprisingly, doctors and nurses comprise less than 40% of health professionals, while allied health professionals make up an estimated 60% of the national health care workforce. While many of the careers in this sector require advanced-level preparation, there are plenty of options available for students of various aptitudes, interests, abilities and degree levels.

There are over 35 health care occupations and different specialties including nursing, research, diagnostic services, support services, physical therapy, and health informatics (using cutting-edge technology to store and retrieve medical data). While significant expansion will continue across all occupational segments, the Health Workforce Initiative notes especially strong growth opportunities for Certified Nursing Assistants, Home Health Aides, Licensed Vocational Nurses and Registered Nurses.



CAREER EDUCATION GUIDE



FAST FACTS*



140,788

people employed



13% (18,866)

5-year projected job growth



8,405

businesses



\$78,862

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

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(C) Conventional



Please reference page 3 for more information about RIASEC



HEALTH | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 (i.e., living wage)—with some exceptions—and a labor market demand of at least 60 annual job openings are included in this list. Any job with “All Other” in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	Entry-level Hourly Rate (Salary)
Community Health Workers	\$16 (\$33K)
First-Line Supervisors of Protective Service Workers, All Other	\$17 (\$35K)
Healthcare Support Workers, All Other	\$17 (\$35K)
Home Health Aides	\$12 (\$25K)
Interviewers, Except Eligibility and Loan	\$16 (\$33K)
Medical Equipment Preparers	\$18 (\$37K)
Medical Secretaries	\$17 (\$35K)
Office Clerks, General	\$12 (\$25K)
Pharmacy Technicians	\$15 (\$31K)
Receptionists and Information Clerks	\$13 (\$27K)
Social and Human Service Assistants	\$15 (\$31K)
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD	
Dental Assistants	\$16 (\$33K)
Health Technologists and Technicians, All Other	\$18 (\$37K)
Licensed Practical and Licensed Vocational Nurses	\$23 (\$48K)
Medical Assistants	\$16 (\$33K)
Medical Records and Health Information Technicians	\$18 (\$37K)
Medical Transcriptionists	\$17 (\$35K)
Nursing Assistants	\$14 (\$29K)
Phlebotomists	\$19 (\$40K)
Surgical Technologists	\$24 (\$50K)
ASSOCIATE DEGREE	
Clinical Laboratory Technologists and Technicians	\$16 (\$33K)
Dental Hygienists	\$43 (\$89K)
Occupational Therapy Assistants	\$22 (\$46K)
Physical Therapist Assistants	\$23 (\$48K)
Radiologic Technologists	\$32 (\$67K)
Respiratory Specialists	\$28 (\$58K)
BACHELOR'S DEGREE OR HIGHER	
Dentists, General	\$37 (\$77K)
Dietitians and Nutritionists	\$28 (\$58K)
Healthcare Social Workers	\$25 (\$52K)
Medical and Health Services Managers*	\$39 (\$81K)
Medical Scientists, Except Epidemiologists	\$34 (\$71K)
Mental Health and Substance Abuse Social Workers	\$16 (\$33K)
Nurse Practitioners	\$51 (\$106K)
Occupational Health and Safety Specialists*	\$33 (\$67K)
Occupational Therapists	\$38 (\$79K)
Pharmacists	\$53 (\$110K)
Physical Therapists	\$38 (\$79K)
Physician Assistants	\$43 (\$89K)
Registered Nurses*	\$39 (\$81K)
Social and Community Service Managers	\$25 (\$52K)
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	\$15 (\$31K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

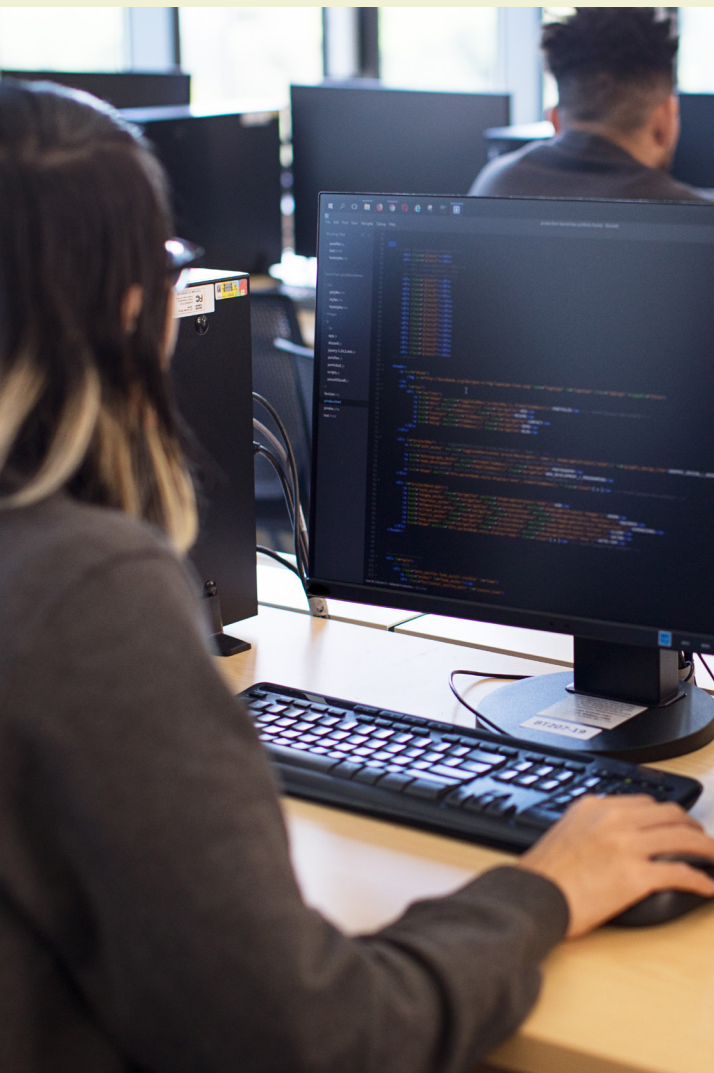
INFORMATION COMMUNICATION TECHNOLOGIES (ICT) & DIGITAL MEDIA

In California alone, this sector accounts for 12.6% of the state's economy, while providing more than one million jobs across the state. As companies continue to use new and emerging technologies, the demand for technologically savvy and creative professionals will continue to grow. Jobs in the ICT & Digital Media sector tend to be constantly changing and require a combination of imaginative and hands-on skills. Professionals in this sector must be able to work both independently and collaboratively.

ICT & Digital Media students learn about the design, development, maintenance, and management of hardware, software, multimedia, and systems integration services. Because of the central role that technology plays in all industries, ICT professionals are and will continue to be in great demand in every sector of the economy. Specific areas of future growth are likely to surface in cloud computing, collection and storage of big data, and information security.



CAREER EDUCATION GUIDE



FAST FACTS*



48,467

people employed



11% (5,440)

5-year projected job growth



3,396

businesses



\$138,180

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

(I) Investigative

(A) Artistic

(S) Social

(C) Conventional



Please reference page 3 for more information about RIASEC



INFORMATIONAL COMMUNICATION TECHNOLOGIES (ICT) & DIGITAL MEDIA | JOBS & WAGES

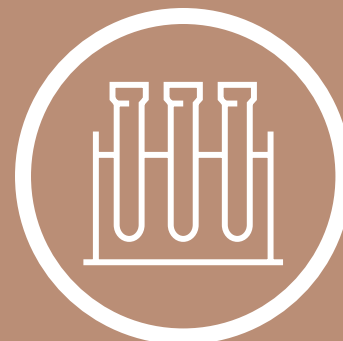
The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 (i.e., living wage) and a labor market demand of at least 30 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	Entry-level Hourly Rate (Salary)
Computer Operators	\$19 (\$40K)
Electrical Power-Line Installers and Repairers	\$32 (\$67K)
Media and Communication Equipment Workers, All Other	\$21 (\$44K)
Media and Communication Equipment Workers, All Other	\$19 (\$40K)
Photographers	\$12 (\$25K)
Surveying and Mapping Technicians	\$24 (\$50K)
Telecommunications Line Installers and Repairers	\$24 (\$50K)
Word Processors and Typists	\$17 (\$35K)
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD	
Audio and Video Equipment Technicians	\$16 (\$33K)
Computer User Support Specialists	\$23 (\$48K)
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$25 (\$52K)
ASSOCIATE DEGREE	
Broadcast Technicians	\$15 (\$31K)
Computer Network Support Specialists	\$24 (\$50K)
Web Developers	\$16 (\$33K)
BACHELOR'S DEGREE OR HIGHER	
Computer and Information Systems Managers	\$56 (\$117K)
Computer Network Architects*	\$46 (\$96K)
Computer Occupations, All Other*	\$30 (\$62K)
Computer Programmers	\$36 (\$75K)
Computer Systems Analysts	\$35 (\$73K)
Database Administrators	\$35 (\$73K)
Editors	\$17 (\$35K)
Graphic Designers*	\$18 (\$37K)
Information Security Analysts	\$38 (\$79K)
Multimedia Artists and Animators*	\$15 (\$31K)
Network and Computer Systems Administrators*	\$35 (\$73K)
Operations Research Analysts	\$30 (\$62K)
Producers and Directors	\$16 (\$33K)
Public Relations Specialists	\$24 (\$50K)
Reporters and Correspondents	\$16 (\$33K)
Software Developers, Applications	\$42 (\$87K)
Software Developers, Systems Software	\$42 (\$87K)
Statisticians	\$42 (\$87K)
Technical Writers	\$28 (\$58K)
Writers and Authors	\$12 (\$25K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

LIFE SCIENCES & BIOTECHNOLOGY

This sector focuses on finding solutions for the world's great challenges in health care, agriculture, and sustainability. Firms include research, testing and medical laboratories that are engaged in the discovery, development and commercialization of new products. The Life Sciences & Biotechnology sector encompasses many segments, including pharmaceuticals, biomedical devices, M-Health (mobile health) or wireless health, agricultural and industrial biotechnology (e.g., biofuels, biodegradable materials), and bioscience-related distribution and trade. The Life Sciences & Biotechnology sector is an economic driver and job producer; for every job created in this sector, four other jobs are generated throughout San Diego County.



CAREER EDUCATION GUIDE



FAST FACTS*



48,770

people employed



7% (3,470)

5-year projected job growth



1,770

businesses



\$147,894

average earnings per job

*Labor market data derived from EMSI 2020.02; QCEW, Non-QCEW, Self-Employed; 2019-2024 projections.

RIASEC

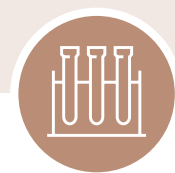
(R) Realistic

(I) Investigative

(C) Conventional



Please reference page 3 for more information about RIASEC



LIFE SCIENCES & BIOTECHNOLOGY | JOBS & WAGES

The following table lists the **minimum** educational attainment that an individual needs to have in order to be qualified for the occupation. Wages listed for each occupation are based on 25th percentile wages, which represent wages for entry-level workers. Only occupations with median annual salaries of at least \$33,280 (i.e., living wage) and a labor market demand of at least 10 annual job openings are included in this list. Any job with "All Other" in the title is an occupation with highly specialized subsets; put differently, the title is written broadly to capture various emerging occupations.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	Entry-level Hourly Rate (Salary)
Chemical Equipment Operators and Tenders	\$17 (\$35K)
Chemical Plant and System Operators	\$31 (\$65K)
Inspectors, Testers, Sorters, Samplers, and Weighers	\$16 (\$33K)
Medical Appliance Technicians	\$12 (\$25K)
Ophthalmic Laboratory Technicians	\$15 (\$31K)
ASSOCIATE DEGREE	
Chemical Technicians	\$18 (\$37K)
Life, Physical, and Social Science Technicians, All Other	\$22 (\$46K)
Manufacturing Production Technicians (<i>part of Engineering Technicians, Except Drafters, All Other</i>)	\$41 (\$85K)
Medical Equipment Repairers	\$21 (\$44K)
Quality Control Analysts (<i>part of Life, Physical, and Social Science Technicians, All Other</i>)	\$22 (\$46K)
BACHELOR'S DEGREE OR HIGHER	
Anthropologists and Archaeologists	\$19 (\$40K)
Atmospheric and Space Scientists	\$53 (\$110K)
Biochemists and Biophysicists	\$28 (\$58K)
Biological Scientists, All Other	\$31 (\$65K)
Biological Technicians*	\$19 (\$40K)
Biomedical Engineers	\$32 (\$67K)
Biostatisticians (<i>part of Statisticians</i>)	\$42 (\$87K)
Chemical Engineers	\$40 (\$83K)
Chemists	\$26 (\$54K)
Clinical Data Managers (<i>part of Statisticians</i>)	\$42 (\$87K)
Clinical Research Coordinators (<i>part of Natural Sciences Managers</i>)	\$57 (\$119K)
Conservation Scientists	\$40 (\$83K)
Laboratory Managers (<i>part of Natural Sciences Managers</i>)	\$57 (\$119K)
Manufacturing Engineers (<i>part of Engineers, All Other</i>)	\$41 (\$85K)
Materials Scientists	\$27 (\$56K)
Microbiologists	\$32 (\$67K)
Natural Sciences Managers	\$57 (\$119K)
Physicists	\$32 (\$67K)
Social Science Research Assistants*	\$20 (\$42K)
Social Scientists and Related Workers, All Other	\$30 (\$62K)
Sociologists	\$42 (\$87K)
Urban and Regional Planners	\$34 (\$71K)
Zoologists and Wildlife Biologists	\$24 (\$50K)

*Nationally, 33% or more of workers currently employed in this occupation have an associate degree or less.

K-12 CROSSWALK

The tables below show industry sector alignment between the San Diego & Imperial Counties Community College's in-demand sectors and the K12 Career Pathways.

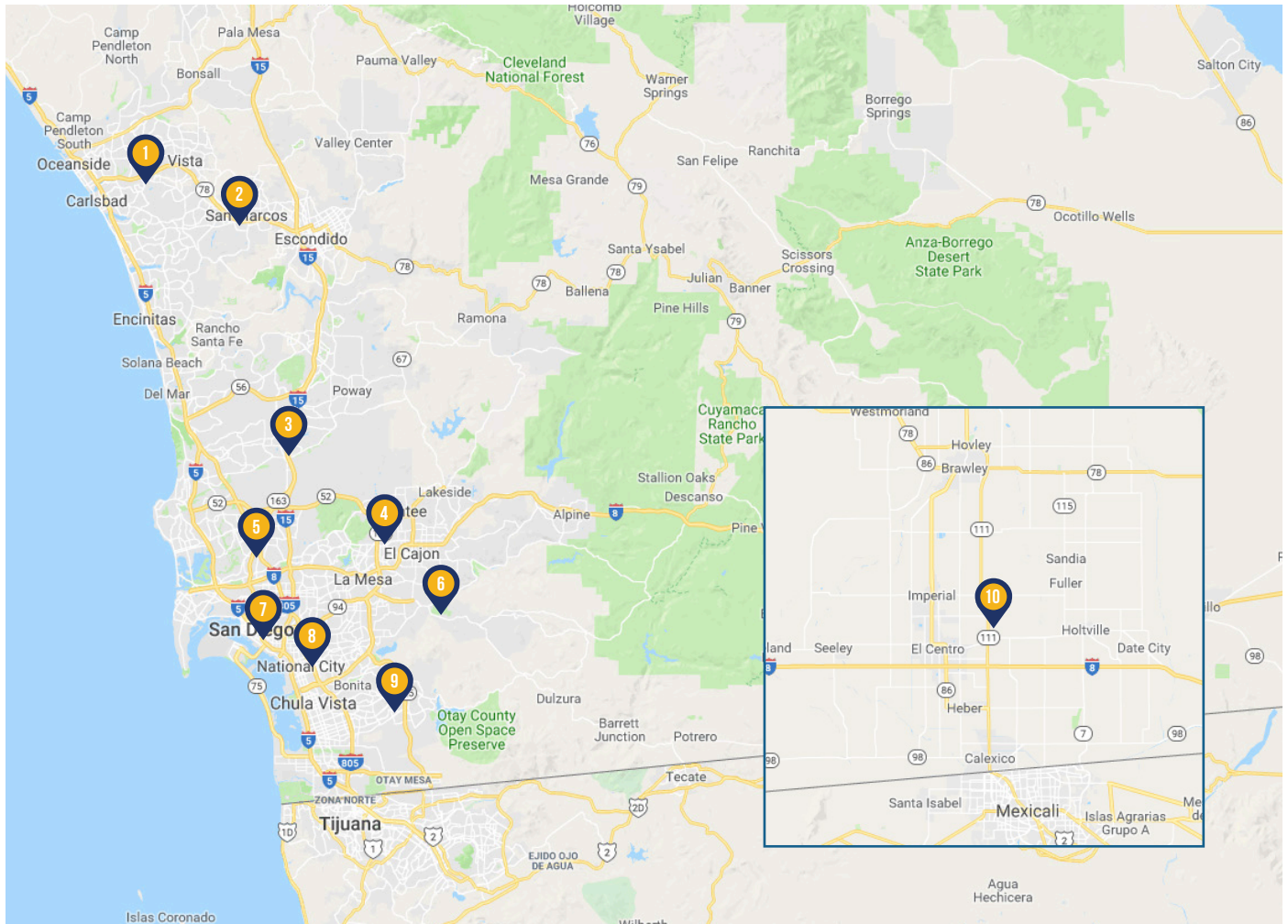
IN-DEMAND SECTORS



K12 CAREER PATHWAYS



COLLEGE MAP



1 MIRACOSTA COLLEGE
Oceanside

2 PALOMAR COLLEGE
San Marcos

3 SAN DIEGO MIRAMAR COLLEGE
Mira Mesa

4 GROSSMONT COLLEGE
El Cajon

5 SAN DIEGO MESA COLLEGE
Clairemont Mesa

6 CUYAMACA COLLEGE
El Cajon

7 SAN DIEGO CITY COLLEGE
Downtown San Diego

8 SAN DIEGO CONTINUING EDUCATION
Across San Diego

9 SOUTHWESTERN COLLEGE
Chula Vista

10 IMPERIAL VALLEY COLLEGE
Imperial

COLLEGE OVERVIEW

CUYAMACA COLLEGE



El Cajon

Situated on 165 rolling acres in scenic Rancho San Diego, Cuyamaca College opened in 1978 and serves almost 10,000 students each semester. The school in eastern San Diego County offers 91 degree programs and 74 certificates. Cuyamaca College has renowned career education programs in automotive technology, ornamental horticulture, computer and information science, and engineering.



GROSSMONT COLLEGE



El Cajon

Grossmont College, located on a 135-acre mesa in northwest El Cajon, has been a vital part of the community since 1961. Grossmont serves almost 19,000 full- and part-time students per semester, and offers 95 degree and 73 certificate programs. Grossmont College has highly regarded career education programs in culinary arts, nursing and health, and law enforcement.



IMPERIAL VALLEY COLLEGE



Imperial

In 1962, a handful of people gathered on a 160-acre plot of land in Imperial, CA. It was the first day of classes for what would become Imperial Valley College. Today, 9,000 students learn across dozens of degree, certificate and career education programs each semester. Over the past decade, Imperial Valley College has continued major modernization programs, including construction of state-of-the-art Career Education buildings and labs, and establishment of innovative educational partnerships.



MIRACOSTA COLLEGE



Oceanside

The MiraCosta Community College District includes Oceanside, Carlsbad, La Costa, Encinitas, Olivenhain, Rancho Santa Fe, Cardiff by the Sea, Solana Beach, Del Mar, and Carmel Valley. With its coastal location, beautiful campuses, and strong academic programs, MiraCosta College attracts students from throughout San Diego County, the state, and the country as well as from abroad. Founded in 1934, today, MiraCosta is one of a handful of California community colleges that offers a bachelor's degree. Nearly 15,000 students take class each semester, including military members and veteran community.



PALOMAR COLLEGE



San Marcos

Palomar College is a public, two-year community college. Its main campus is located approximately 30 miles north of downtown San Diego, in San Marcos, California. Palomar enrolls nearly 30,000 full-time and part-time students and gives you the opportunity to choose from over 200 associate degrees, complete certificate training programs, and enjoy career education classes for lifelong learning.



SAN DIEGO CITY COLLEGE



Downtown San Diego

For more than 100 years, City College has been a public, two-year community college serving as the educational cornerstone of downtown San Diego. The college covers 60 acres, taking up 20% of downtown's footprint. By the numbers, the school offers 250 majors and certificate programs, and conducts 1,500 classes each semester for more than 17,000 students. Explore career education at City College.



SAN DIEGO CONTINUING EDUCATION



Across San Diego

Founded in 1914, SDCE is the adult education division of the San Diego Community College District. SDCE provides accessible, equitable, and innovative quality education across more than 70 programs and thousands of free classes. Programs are available at seven campuses in San Diego from the Barrio Logan community in the south, to Miramar in the north. Students also attend classes at over 200 community locations.



SAN DIEGO MESA COLLEGE



Clairemont Mesa

As one of California's largest community colleges, Mesa College ranks as San Diego's top transfer institution, with small classes, award-winning faculty, and a reputation as the leading college of equity and excellence. Conveniently located in central San Diego, Mesa offers Career Education programs in sectors such as allied health, Geographic Information Systems (GIS), business, multimedia, hospitality, culinary arts, fashion, architecture, and interior design along with a four-year baccalaureate degree in Health Information Management.



SAN DIEGO MIRAMAR COLLEGE



Mira Mesa

Founded in 1969, and located in Mira Mesa, Miramar College enrolls 15,000 students annually, in both online and on-campus classes. The school offers 117 degrees and certificates across 16 career education programs. Partnerships with local industries help prepare students for high-demand and well-paying jobs in the highly-competitive labor market, including biotechnology, paralegal, aviation, automotive, diesel and advanced transportation and energies.



SOUTHWESTERN COLLEGE



Chula Vista

Since its inception in 1961, Southwestern College has shaped the lives of hundreds of thousands of South County students through higher education. Nestled on a 156-acre campus in the heart of Chula Vista, the school provides a supportive environment, with over 320 associate degree and certificate programs available for a highly diverse traditional and non-traditional student population. Whether your goal is a certificate, degree, transferring to a four-year college, or pursuing career education, SWC offers extensive opportunities to meet educational, career and personal improvement goals with five locations throughout the South Bay.



ADDITIONAL RESOURCES



California Career Center

California Career Center is a virtual counselor for career and college exploration and planning resources to help students map their futures. The Career Center is focused on students but also contains resources for counselors, teachers, and parents/guardians.
<https://www.calcareercenter.org/>

My Stuff Resume

The My Stuff Resume enables students to create and revise resumes that can also be created and revised in their California Career Center “My Stuff” student accounts. Download from the Apple App Store or Google Play Store.

My Stuff Career Action Plan

The Career Action Plan enables students to create and revise Career Action Plans that can also be created and revised in their California Career Center “My Stuff” accounts. Look for “Career Action” in the Apple App Store or Google Play Store.



California Career Zone

Career exploration and planning system designed especially for students. Jobseekers, educators, and counselors will benefit from the wealth of information on 900 occupations from the Occupational Information Network (O*Net) database
www.cacareerzone.org



California Community Colleges Career Coach

Discover majors and in-demand careers and education based on your interests. Take a career assessment, browse careers, or browse programs. Offers Military Search. Powered by EMSI.
<https://ccc.emsicc.com/>



California Community Colleges Career Education

Explore 200+ programs that allow students to learn by exploring, collaborating and doing.
<https://careered.cccco.edu/>



California Community Colleges My Path

CCC MyPath is a guided pathway onboarding platform that provides information and resources to incoming students, and bridges the gap between the online application and a college's local systems.
<https://www.cccmypath.org>



Career Surfer

Career Surfer is CalCRN's mobile application that can be downloaded for free from AppStore or Google Play. Basic information about the 900 occupations detailed on the California Career Zone.
<https://www.calcareercenter.org/Home/Content?contentID=404>



Career Technical Education

Career 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.
www.cde.ca.gov/ci/ct/



Core Academics for Careers

A project of SB1070 CTE Regional Pathways, this website provides “Work-Based Learning” curriculum for activities supporting Essential Skills.
<https://www.careeracademics.org/>



CTE Model Curriculum Standards

The Career Technical Education (CTE) Model Curriculum Standards are designed to assist California districts and schools in developing high-quality curriculum and instruction to help ensure that students are career and college ready and to prepare them for future careers.
www.cde.ca.gov/ci/ct/



Here to Career

The Here to Career app is an easy way to find careers that match your interest and get connected with tools to be successful. With Here to Career, you can view salary information and high-demand career opportunities in your area and find a local community college with a program to help you achieve your goals.
<https://www.heretocareer.org/>



MyWorkforce Connection – Career Development Continuums

MS Career Development



HS Career Development



These documents describe practice along a continuum of support for students, from “self-awareness”, “career awareness”, and “career exploration”, to “career preparation” and “career training”. Each continuum describes WHAT you can do.

https://myworkforceconnection.org/wp-content/uploads/2019/08/SDIC_MS-Career-Development-Continuum_2-2.pdf

https://myworkforceconnection.org/wp-content/uploads/2020/01/SDIC_HS-Career-Development-Continuum_2.pdf

My Workforce Connection - Counselor Conference

Links to breakout session handouts, PowerPoints, and more.

<https://myworkforceconnection.org/educator-resources/counselor-resources/counselor-conference/>

My Workforce Connection - Resources

Resources such as research studies, archived webinars, and best practices in support of activities related to: 21st Century employability skills, career development, career exploration, career pathways, parent engagement, transitions, work-based learning. Resources are organized by topic and are searchable by type, format, and keywords.

<https://myworkforceconnection.org/resources/>



O*NET

O*NET is a tool for career exploration and job analysis. It has detailed descriptions of the world of work for use by job seekers, workforce development and HR professionals, students, researchers, and more!

<https://www.onetonline.org/>



O*NET My Next Move

My Next Move is an interactive tool for job seekers and students to learn more about their career options. Users can find careers through keyword search; by browsing industries that employ different types of workers; or through the O*NET Interest Profiler, a tool that offers personalized career suggestions based on a person's interests and level of work experience.

<https://www.mynextmove.org/>



San Diego & Imperial Counties Community Colleges

The regional career education website for the San Diego and Imperial Counties Community Colleges. Includes career and college exploration as well as information about fees and how to apply.

<https://careered.org/>



Salary Surfer

To help students and their families make important decisions about investing time and money in a college education, the California Community Colleges Chancellor's Office, through Salary Surfer, is providing comparative information about the earnings of recent California community college graduates who received an award in a specific program of study.

<https://salarysurfer.cccco.edu/SalarySurfer.aspx>



Statewide Career Pathways

Creating School to College Articulation provides a statewide framework to assist high school and college faculty to collaborate and develop programs of study that include articulation of high school coursework.

www.statewidepathways.org/

LEARN MORE. EARN MORE.

CareerEd.org