

LEARN MORE. EARN MORE.

CAREER EDUCATION GUIDE 2019

SAN DIEGO & IMPERIAL COUNTIES COMMUNITY COLLEGES



POWERED BY
California Community Colleges

COMMUNITY COLLEGES
SAN DIEGO & IMPERIAL COUNTIES
CAREER EDUCATION



C·O·E
CENTERS OF EXCELLENCE
Inform Connect Advance

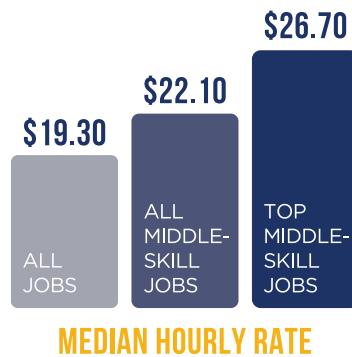
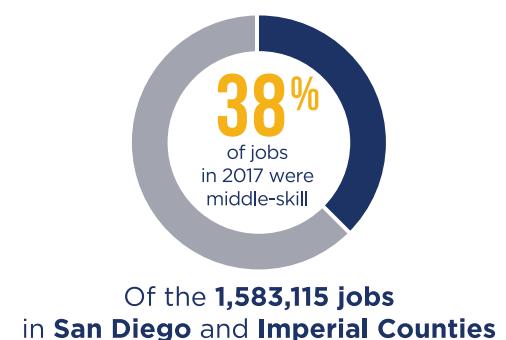
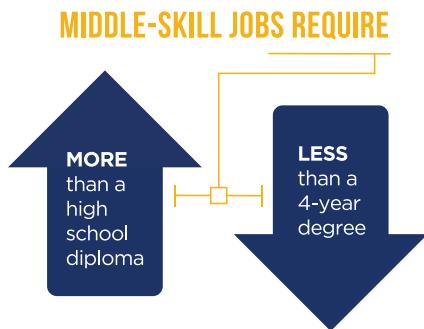
MIDDLE-SKILL JOBS DRIVE THE ECONOMY



Businesses need more qualified candidates to fill good-paying middle-skill positions. Career Education at 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 PROGRAM 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 9 IN-DEMAND SECTORS

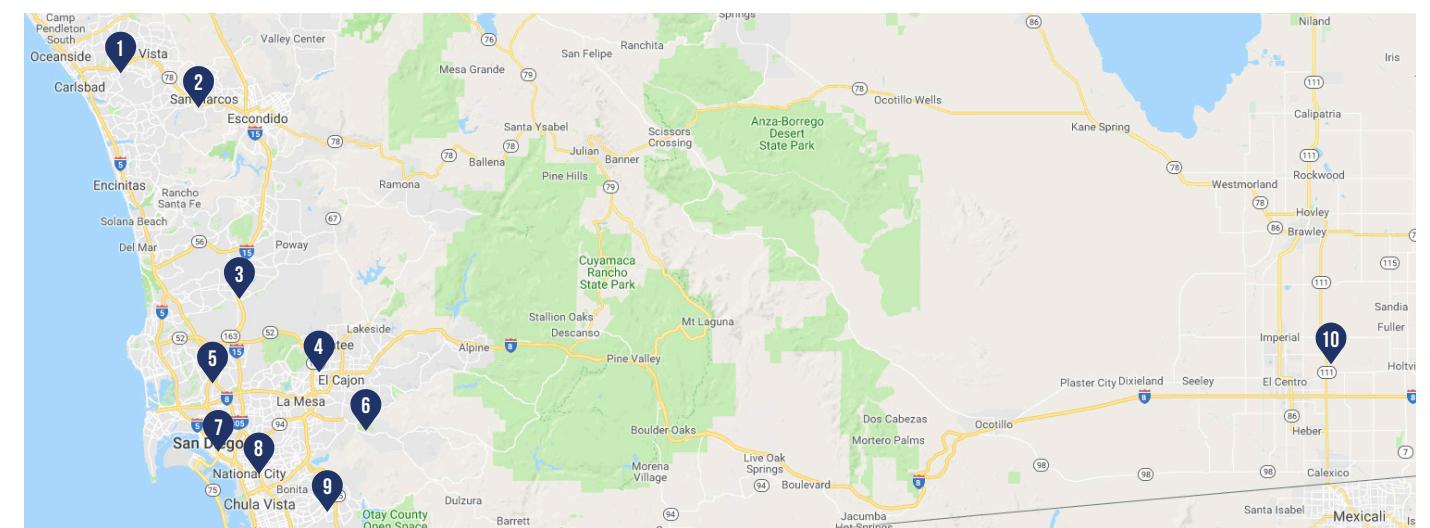
- 1 Advanced Manufacturing
- 2 Advanced Transportation & Logistics
- 3 Agriculture, Water, & Environmental Technologies
- 4 Business & Entrepreneurship
- 5 Energy, Construction, & Utilities
- 6 Global Trade
- 7 Health
- 8 Information Communication Technologies (ICT) & Digital Media
- 9 Life Sciences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

GET CONNECTED

STUDENTS

CAREER EDUCATION
TRAINING
WORK EXPERIENCE
JOB PLACEMENT

EMPLOYERS



ADVANCED MANUFACTURING

Companies in this sector create products to solve many of today's most challenging problems. High-tech manufacturing (i.e., Advanced Manufacturing) jobs continue to grow, especially in the areas of 3-D printing, and high-speed, computerized numerical control machining. 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 who are at ease in the mechanical world and able to apply 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



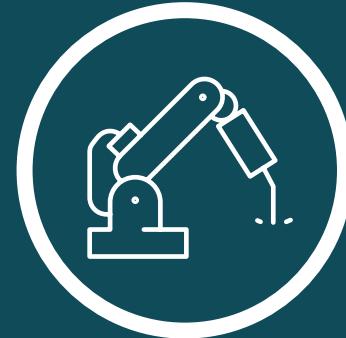
TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Working with your head and hands to bring product designs to life
- Using mechanical skills to build and maintain heavy machinery
- Learning a practical trade that is in demand no matter where you live
- Understanding how complicated equipment works
- Applying scientific and technical principles to structures and manufacturing processes

Do you...?

- Like to work collaboratively
- Have innovative ideas
- Pay attention to detail
- Have a strong work ethic
- Like to use math and/or machines to solve problems



CAREER EDUCATION GUIDE 2019



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 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.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING

Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	\$15.77 - \$27.54
Cabinetmakers and Bench Carpenters	\$15.79 - \$23.14
Computer-Controlled Machine Tool Operators, Metal and Plastic	\$16.24 - \$27.06
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$14.96 - \$22.19
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	\$13.52 - \$20.68
First-Line Supervisors of Production and Operating Workers	\$24.44 - \$40.62
Industrial Machinery Mechanics	\$23.18 - \$31.81
Machinists	\$15.84 - \$26.49
Maintenance and Repair Workers, General	\$15.85 - \$25.00
Mixing and Blending Machine Setters, Operators, and Tenders	\$14.41 - \$23.75
Printing Press Operators	\$12.52 - \$21.72
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	\$14.98 - \$21.42
Sheet Metal Workers	\$24.19 - \$35.17
Structural Iron and Steel Workers	\$22.71 - \$42.61
Structural Metal Fabricators and Fitters	\$16.66 - \$26.81
Welders, Cutters, Solderers, and Brazers	\$18.02 - \$28.12

SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD

Aircraft Mechanics and Service Technicians	\$27.04 - \$36.28
Computer, Automated Teller, and Office Machine Repairers	\$13.41 - \$24.03
Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$26.80 - \$37.17

ASSOCIATE DEGREE

Aerospace Engineering and Operations Technicians	\$25.58 - \$39.70
Civil Engineering Technicians	\$17.56 - \$30.86
Electrical and Electronics Engineering Technicians	\$26.32 - \$41.63
Engineering Technicians, Except Drafters, All Other	\$26.72 - \$43.01
Industrial Engineering Technicians	\$28.42 - \$38.98
Mechanical Drafters	\$25.71 - \$44.49
Mechanical Engineering Technicians	\$20.43 - \$35.91

BACHELOR'S DEGREE OR HIGHER

Aerospace Engineers	\$39.18 - \$61.60
Civil Engineers	\$31.00 - \$56.50
Computer Hardware Engineers	\$48.73 - \$76.01
Electrical Engineers	\$39.78 - \$58.89
Electronics Engineers, Except Computer	\$49.91 - \$74.53
Engineers, All Other	\$40.60 - \$67.31
Industrial Engineers	\$36.57 - \$55.77
Industrial Production Managers*	\$39.16 - \$68.80
Mechanical Engineers	\$36.59 - \$55.95

*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



TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Applying your knowledge of mechanics to maintain machines
- Using the latest technology to identify and solve mechanical problems
- Learning skills that will be in demand no matter where you live
- Making vehicles and processes run smoothly and efficiently

Do you...?

- Enjoy travel
- Like to read maps and figure out routes
- Like to tinker with machines and motors
- Like electronics, computers, and technology
- Want to fly planes and operate trains and other vehicles

CAREER EDUCATION GUIDE 2019



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 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

Industrial Truck and Tractor Operators	\$15.24 - \$24.96
Motor Vehicle Operators, All Other	\$12.02 - \$25.02
Sailors and Marine Oilers	\$12.93 - \$28.13
HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	\$15.77 - \$27.54

Automotive Body and Related Repairers	\$11.77 - \$29.29
Bus Drivers, School or Special Client	\$14.22 - \$23.89
Bus Drivers, Transit and Intercity	\$14.35 - \$22.66
Bus and Truck Mechanics and Diesel Engine Specialists	\$20.82 - \$32.52
Cargo and Freight Agents	\$14.99 - \$24.54
Commercial Pilots	\$31.66 - \$56.73
First-Line Supervisors of Mechanics, Installers, and Repairers	\$26.03 - \$39.41
First-line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	\$19.18 - \$33.68
Flight Attendants	\$22.72 - \$52.98
Light Truck or Delivery Services Drivers	\$12.17 - \$23.65
Mobile Heavy Equipment Mechanics, Except Engines	\$23.54 - \$31.13
Procurement Clerks	\$19.52 - \$24.99
Production, Planning, and Expediting Clerks	\$19.58 - \$29.90
Sales Representatives, Services, All Other	\$17.00 - \$34.80
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$17.55 - \$41.11
Shipping, Receiving, and Traffic Clerks	\$13.12 - \$19.53
Transportation, Storage, and Distribution Managers	\$33.65 - \$59.30
Transportation Workers, All Other	\$14.79 - \$23.34

SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD

Aircraft Mechanics and Service Technicians	\$27.04 - \$36.28
Automotive Service Technicians and Mechanics	\$14.69 - \$27.69
Captains, Mates, and Pilots of Water Vessels	\$23.12 - \$48.72
Heavy and Tractor-Trailer Truck Drivers	\$16.09 - \$26.25

ASSOCIATE DEGREE

Air Traffic Controllers	\$55.44 - \$84.23
Avionics Technicians	\$27.84 - \$35.74

BACHELOR'S DEGREE OR HIGHER

Airline Pilots, Copilots, and Flight Engineers	\$75.83 - \$93.36
Business Operations Specialists, All Other*	\$26.73 - \$49.49
Buyers and Purchasing Agents*	\$23.29 - \$43.57
Compliance Officers*	\$26.95 - \$45.66
Cost Estimators*	\$25.70 - \$43.10
Logisticians*	\$32.51 - \$47.62

*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



TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Solving real-world problems with practical, hands-on solutions
- The relationship between humans, the environment, and natural resources
- Diagnosing, testing, and repairing large equipment using complex technologies

Do you...?

- Enjoy working outdoors
- Want to protect the environment and natural resources
- Like working with people
- Have a green thumb



CAREER EDUCATION GUIDE 2019



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 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	
Agricultural Workers, All Other	\$9.76 - \$26.28
HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	
Earth Drillers, Except Oil and Gas	\$21.31 - \$37.53
Farmers, Ranchers, and Other Agricultural Managers	\$19.45 - \$28.08
First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$15.40 - \$29.60
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$16.43 - \$33.84
Pesticide Handlers, Sprayers, and Applicators, Vegetation	\$12.67 - \$26.43
Stationary Engineers and Boiler Operators	\$28.32 - \$39.52
Tree Trimmers and Pruners	\$16.50 - \$26.93
Water and Wastewater Treatment Plant and System Operators	\$26.64 - \$42.78
ASSOCIATE DEGREE	
Agricultural and Food Science Technicians	\$17.99 - \$24.88
Environmental Engineering Technicians	\$23.14 - \$42.65
Environmental Science and Protection Technicians, Including Health	\$20.80 - \$34.43
Forest and Conservation Technicians	\$16.14 - \$25.73
BACHELOR'S DEGREE OR HIGHER	
Environmental Engineers	\$35.88 - \$57.12
Environmental Scientists and Specialists, Including Health	\$28.43 - \$45.88
Food Scientists and Technologists	\$27.09 - \$31.32
Geoscientists, Except Hydrologists and Geographers	\$35.10 - \$52.81
Physical Scientists, All Other	\$41.74 - \$73.45
Soil and Plant Scientists	\$27.15 - \$45.52

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



TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Owning your own business
- Using software to track taxes, investments, and assets
- Managing a team of employees
- Working with financial records to make sure everything adds up
- Understanding how local, state, national and global economies work

Do you...?

- Enjoy working with numbers
- Like to read business/financial information
- Like making presentations
- Like to follow the stock market
- Want to develop skills that are transferable to any business
- Enjoy solving problems



CAREER EDUCATION GUIDE 2019



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 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.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING

Advertising Sales Agents	\$14.11 - \$30.32
Bill and Account Collectors	\$15.87 - \$25.20
Billing and Posting Clerks	\$18.22 - \$26.85
Claims Adjusters, Examiners, and Investigators	\$24.68 - \$39.20
Customer Service Representatives	\$14.00 - \$22.32
Executive Secretaries and Executive Administrative Assistants	\$25.21 - \$37.87
First-Line Supervisors of Office and Administrative Support Workers	\$22.00 - \$34.57
Information and Record Clerks, All Other	\$19.91 - \$26.48
Insurance Claims and Policy Processing Clerks	\$15.92 - \$23.21
Legal Secretaries	\$20.52 - \$32.52
Loan Interviewers and Clerks	\$16.36 - \$26.31
Office and Administrative Support Workers, All Other	\$13.62 - \$23.76
Payroll and Timekeeping Clerks	\$20.75 - \$28.88
Procurement Clerks	\$19.52 - \$24.99
Property, Real Estate, and Community Association Managers	\$21.44 - \$46.38
Real Estate Brokers	\$21.68 - \$57.20
Real Estate Sales Agents	\$14.61 - \$45.43
Sales Representatives, Services, All Other	\$17.00 - \$34.80
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$16.10 - \$25.02
Switchboard Operators, Including Answering Service	\$15.94 - \$23.27
Tax Preparers	\$16.55 - \$40.57

SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD

Bookkeeping, Accounting, and Auditing Clerks	\$16.80 - \$26.69
----------------------------------------------	-------------------

ASSOCIATE DEGREE

Human Resources Assistants, Except Payroll and Timekeeping	\$17.92 - \$24.46
------------------------------------------------------------	-------------------

BACHELOR'S DEGREE OR HIGHER

Accountants and Auditors	\$27.56 - \$49.10
Administrative Services Managers*	\$34.38 - \$60.87
Buyers and Purchasing Agents*	\$23.29 - \$43.57
Compliance Officers	\$26.95 - \$45.66
Credit Analysts*	\$27.13 - \$55.56
Financial Analysts	\$29.87 - \$50.87
Financial Managers*	\$42.54 - \$80.58
Loan Officers*	\$20.16 - \$51.00
Management Analysts	\$28.43 - \$52.36
Market Research Analysts and Marketing Specialists	\$20.68 - \$39.59
Marketing Managers	\$44.14 - \$88.89
Personal Financial Advisors	\$29.88 - \$89.07
Securities, Commodities, and Financial Services Sales Agents	\$19.11 - \$35.13
Training and Development Managers	\$42.52 - \$64.07
Training and Development Specialists*	\$24.88 - \$41.82

*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



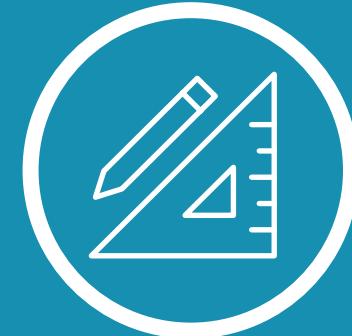
TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Working with state-of-the-art technology and machines
- Balancing energy needs with environmental concerns
- Learning a practical trade that is transferable to any location
- Being part of a sector with a global impact
- Using math to solve community and global problems

Do you...?

- Enjoy building things and working with tools
- Dream of creating a city skyline
- Want to build massive infrastructures that connect and support our world
- Follow directions
- Prefer working outdoors
- Work on a project until all the pieces fit together
- Work with your hands



CAREER EDUCATION GUIDE 2019



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

Carpet Installers	\$12.65 - \$31.13
Cement Masons and Concrete Finishers	\$20.83 - \$31.31
Construction Laborers	\$13.17 - \$25.91
Drywall and Ceiling Tile Installers	\$20.72 - \$36.94
Insulation Workers, Floor, Ceiling, and Wall	\$14.87 - \$33.41
Painters, Construction and Maintenance	\$13.01 - \$26.05
Plasterers and Stucco Masons	\$22.93 - \$29.98
Roofers	\$16.93 - \$27.06
Tapers	\$20.96 - \$34.73
Tile and Marble Setters	\$14.55 - \$30.40

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING

Carpenters	\$26.03 - \$39.41
Construction and Building Inspectors	\$19.18 - \$33.68
Electricians	\$22.72 - \$52.98
Explosives Workers, Ordnance Handling Experts, and Blasters	\$12.17 - \$23.65
Glaziers	\$23.54 - \$31.13
First-Line Supervisors of Construction Trades and Extraction Workers	\$19.52 - \$24.99
Hazardous Materials Removal Workers	\$19.58 - \$29.90
Helpers-Electricians	\$17.00 - \$34.80
Installation, Maintenance, and Repair Workers, All Other	\$17.55 - \$41.11
Maintenance Workers, Machinery	\$13.12 - \$19.53
Miscellaneous Construction and Related Workers	\$33.65 - \$59.30
Operating Engineers and Other Construction Equipment Operators	\$14.79 - \$23.34
Plumbers, Pipefitters, and Steamfitters	\$27.04 - \$36.28
Security and Fire Alarm Systems Installers	\$14.69 - \$27.69
Septic Tank Servicers and Sewer Pipe Cleaners	\$23.12 - \$48.72
Solar Photovoltaic Installers	\$17.34 - \$25.07

SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD

Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$21.07 - \$32.77
-----------------------------------------------------------------------	-------------------

ASSOCIATE DEGREE

Architectural and Civil Drafters	\$25.01 - \$35.32
Geological and Petroleum Technicians	\$25.01 - \$35.32

BACHELOR'S DEGREE OR HIGHER

Architects, Except Landscape and Naval	\$28.02 - \$49.56
Architectural and Engineering Managers	\$60.63 - \$92.30
Construction Managers*	\$29.00 - \$56.25

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

GLOBAL TRADE

The relative ease of travel and the use of electronic communication have seemingly diminished the size of the globe, yet the interdependence of countries for goods and services causes this marketplace to grow, thrive, and become increasingly more competitive. Students focusing on the occupational area of international trade develop an understanding of the global business environment and the interconnectedness of cultural, political, legal, historical, economic, and ethical systems. The Global Trade sector includes organizations, technologies and resources that move international goods and services from supplier to customer. Some programs in this sector include sourcing, procurement, and mastering import/export laws. As a major economic driver for California, international trade creates high-paying jobs for more than a million residents.

CAREER EDUCATION GUIDE



CAREER EDUCATION GUIDE 2019



GLOBAL TRADE | 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	
Industrial Truck and Tractor Operators	\$15.24 - \$24.96
HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING	
Brokerage Clerks	\$22.64 - \$31.25
Cargo and Freight Agents	\$14.99 - \$24.54
Customer Service Representatives	\$14.00 - \$22.32
First-Line Supervisors of Non-Retail Sales Workers	\$18.57 - \$39.04
First-Line Supervisors of Production and Operating Workers	\$24.44 - \$40.62
Order Clerks	\$13.96 - \$22.92
Procurement Clerks	\$19.52 - \$24.99
Production, Planning, and Expediting Clerks	\$19.58 - \$29.90
Sales Representatives, Services, All Other	\$17.00 - \$34.80
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$17.55 - \$41.11
Shipping, Receiving, and Traffic Clerks	\$13.12 - \$19.53
Transportation, Storage, and Distribution Managers	\$33.65 - \$59.30
SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD	
Heavy and Tractor-Trailer Truck Drivers	\$16.09 - \$26.25
BACHELOR'S DEGREE OR HIGHER	
Business Operations Specialists, All Other*	\$26.73 - \$49.49
Buyers and Purchasing Agents*	\$23.29 - \$43.57
Compliance Officers*	\$26.95 - \$45.66
Cost Estimators*	\$25.70 - \$43.10
General and Operations Managers	\$34.99 - \$81.93
Logisticians*	\$32.51 - \$47.62
Marketing Managers	\$44.14 - \$88.89
Operations Research Analysts	\$30.12 - \$60.49
Purchasing Managers*	\$48.80 - \$74.73
Sales Engineers	\$36.80 - \$61.16
Sales Managers	\$30.78 - \$76.27

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

HEALTH

Caring students looking for a “recession-proof” career will want to explore health opportunities available in Health Care. The medical and health industry is one of the largest employers 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. Because almost all health professions are experiencing shortages, careers in this sector offer promising futures.

Programs of study in this sector can lead to many 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, and Licensed Vocational Nurses.

CAREER EDUCATION GUIDE



TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Caring for people who are sick and suffering
- Researching and performing experiments using the latest technologies
- Collecting data in order to better understand a disease or treatment
- Assisting doctors and nurses with their daily activities

Do you...?

- Like working on a team
- Pay attention to detail
- Enjoy helping people
- Enjoy entertaining, conversing, or reading aloud to patients



CAREER EDUCATION GUIDE 2019



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 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.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING

Community Health Workers	\$14.11 - \$30.32
Dental Laboratory Technicians	\$15.87 - \$25.20
Healthcare Support Workers, All Other	\$18.22 - \$26.85
Medical Equipment Preparers	\$24.68 - \$39.20
Medical Secretaries	\$14.00 - \$22.32
Orderlies	\$25.21 - \$37.87
Pharmacy Technicians	\$22.00 - \$34.57
Social and Human Service Assistants	\$19.91 - \$26.48

SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD

Dental Assistants	\$15.92 - \$23.21
Health Technologists and Technicians, All Other	\$20.01 - \$46.01
Licensed Practical and Licensed Vocational Nurses	\$20.52 - \$32.52
Medical Assistants	\$16.36 - \$26.31
Medical Records and Health Information Technicians	\$13.62 - \$23.76
Medical Transcriptionists	\$20.75 - \$28.88
Phlebotomists	\$19.52 - \$24.99
Surgical Technologists	\$21.44 - \$46.38

ASSOCIATE DEGREE

Clinical Laboratory Technologists and Technicians	\$21.68 - \$57.20
Dental Hygienists	\$14.61 - \$45.43
Occupational Therapy Assistants	\$14.10 - \$28.46
Physical Therapist Assistants	\$17.00 - \$34.80
Radiologic Technologists	\$16.10 - \$25.02
Respiratory Therapists	\$15.94 - \$23.27
Veterinary Technologists and Technicians	\$16.55 - \$40.57

BACHELOR'S DEGREE OR HIGHER

Health Diagnosing and Treating Practitioners, All Other	\$17.92 - \$24.46
Healthcare Social Workers	\$27.56 - \$49.10
Marriage and Family Therapists	\$34.38 - \$60.87
Medical and Health Services Managers*	\$23.29 - \$43.57
Medical Scientists, Except Epidemiologists	\$26.95 - \$45.66
Mental Health and Substance Abuse Social Workers	\$27.13 - \$55.56
Nurse Practitioners	\$29.87 - \$50.87
Occupational Health and Safety Specialists*	\$42.54 - \$80.58
Occupational Therapists	\$20.16 - \$51.00
Pharmacists	\$28.43 - \$52.36
Physical Therapists	\$20.68 - \$39.59
Physician Assistants	\$44.14 - \$88.89
Registered Nurses*	\$19.11 - \$35.13
Social and Community Service Managers	\$42.52 - \$64.07
Speech-Language Pathologists	\$24.88 - \$41.82
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	\$15.16 - \$29.45

*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



TRAITS FOR SUCCESS IN THIS SECTOR

Are you interested in...?

- Solving puzzles using computers, software and/or technology
- Using your imagination to find creative solutions to artistic problems
- Working on a team of professionals to develop cutting-edge products and solutions
- Learning job skills that are transferable to almost any location and industry
- Troubleshooting a variety of software and hardware problems

Do you...?

- Enjoy art and design
- Have an active imagination
- Like to paint, draw, perform, sculpt or write
- Enjoy explaining technology to non-technology users
- Want to work in a fast-paced work environment
- Enjoy collaborating on project-based assignments

CAREER EDUCATION GUIDE 2019

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 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.

HIGH SCHOOL DIPLOMA OR EQUIVALENT

Computer Operators	\$19.26 - \$30.59
Electrical Power-Line Installers and Repairers	\$31.97 - \$57.27
Photographers	\$12.00 - \$40.79
Surveying and Mapping Technicians	\$23.89 - \$36.43
Telecommunications Line Installers and Repairers	\$23.80 - \$37.47
Word Processors and Typists	\$16.50 - \$23.15

SOME COLLEGE OR POSTSECONDARY NON-DEGREE AWARD

Audio and Video Equipment Technicians	\$15.78 - \$27.37
Computer User Support Specialists	\$23.10 - \$34.63
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$25.25 - \$37.34

ASSOCIATE DEGREE

Computer Network Support Specialists	\$24.14 - \$42.56
Web Developers	\$16.05 - \$38.81

BACHELOR'S DEGREE OR HIGHER

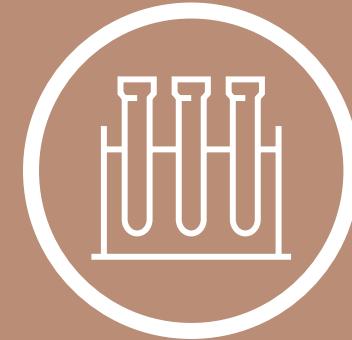
Commercial and Industrial Designers*	\$23.61 - \$49.09
Computer and Information Research Scientists	\$46.08 - \$64.08
Computer and Information Systems Managers	\$56.37 - \$86.71
Computer Network Architects*	\$45.58 - \$80.32
Computer Occupations, All Other*	\$30.18 - \$55.78
Computer Programmers	\$35.38 - \$60.86
Database Administrators	\$35.23 - \$60.31
Editors	\$17.05 - \$39.93
Graphic Designers*	\$17.18 - \$34.99
Information Security Analysts	\$38.15 - \$57.34
Network and Computer Systems Administrators*	\$35.28 - \$53.91
Operations Research Analysts	\$30.12 - \$60.49
Producers and Directors	\$15.80 - \$40.43
Public Relations Specialists	\$24.28 - \$41.84
Software Developers, Applications	\$42.34 - \$63.29
Software Developers, Systems Software	\$41.95 - \$69.78
Statisticians	\$42.51 - \$61.44
Technical Writers	\$27.65 - \$41.21

*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



TRAITS FOR SUCCESS IN THIS SECTOR

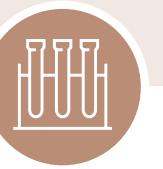
Are you interested in...?

- Using computers and computer systems to analyze information and evaluate results
- Observing, receiving, and obtaining information from relevant sources
- Collecting, documenting, and recording data
- Conducting tests and seeing results
- Using reasoning to produce answers that make sense to a specific problem

Do you...?

- Enjoy solving puzzles
- Enjoy working hands-on with materials
- Use information to form general rules or conclusions
- Enjoy making hypotheses and proving them right or wrong
- Wonder how the world is put together

CAREER EDUCATION GUIDE 2019



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 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.

HIGH SCHOOL DIPLOMA OR EQUIVALENT + ADDITIONAL TRAINING

Chemical Equipment Operators and Tenders	\$16.99 - \$28.73
First-Line Supervisors of Production and Operating Workers	\$24.44 - \$40.62
Inspectors, Testers, Sorters, Samplers, and Weighers	\$16.24 - \$27.93
Ophthalmic Laboratory Technicians	\$15.05 - \$21.19

ASSOCIATE DEGREE

Chemical Technicians	\$17.73 - \$29.07
Clinical Laboratory Technologists and Technicians (<i>includes Medical Laboratory Technicians</i>)	\$16.29 - \$37.12
Medical Equipment Repairers	\$20.45 - \$35.89
Manufacturing Production Technicians (<i>part of Engineering Technicians, Except Drafters, All Other</i>)	\$26.72 - \$43.01
Quality Control Analysts (<i>part of Life, Physical, and Social Science Technicians, All Other</i>)	\$21.77 - \$38.01

BACHELOR'S DEGREE OR HIGHER

Atmospheric and Space Scientists	\$55.68 - \$78.06
Biochemists and Biophysicists	\$27.93 - \$46.80
Biological Scientists, All Other	\$31.24 - \$47.80
Biological Technicians*	\$19.06 - \$28.82
Biomedical Engineers	\$32.45 - \$52.96
Biostatisticians (<i>part of Statisticians</i>)	\$42.51 - \$61.44
Chemical Engineers	\$39.84 - \$67.89
Chemists	\$25.99 - \$52.70
Clinical Data Managers (<i>part of Statisticians</i>)	\$42.51 - \$61.44
Clinical Research Coordinators (<i>part of Natural Sciences Managers</i>)	\$56.82 - \$101.39
Compliance Officers*	\$26.95 - \$45.66
Conservation Scientists	\$39.62 - \$48.95
Laboratory Managers (<i>part of Natural Sciences Managers</i>)	\$56.82 - \$101.39
Manufacturing Engineers (<i>part of Engineers, All Other</i>)	\$40.60 - \$67.31
Medical Scientists, Except Epidemiologists	\$34.22 - \$58.72
Microbiologists	\$31.49 - \$61.78
Physicists	\$31.84 - \$71.04
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific	\$26.36 - \$55.22
Social Science Research Assistants*	\$19.89 - \$30.23
Social Scientists and Related Workers, All Other	\$29.95 - \$47.32

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

Note: Some occupations for this sector were derived from the COE statewide report:
coeccc.net/reports/Life_Sciences_Biotech_Middle_Skills_Workforce_1_1

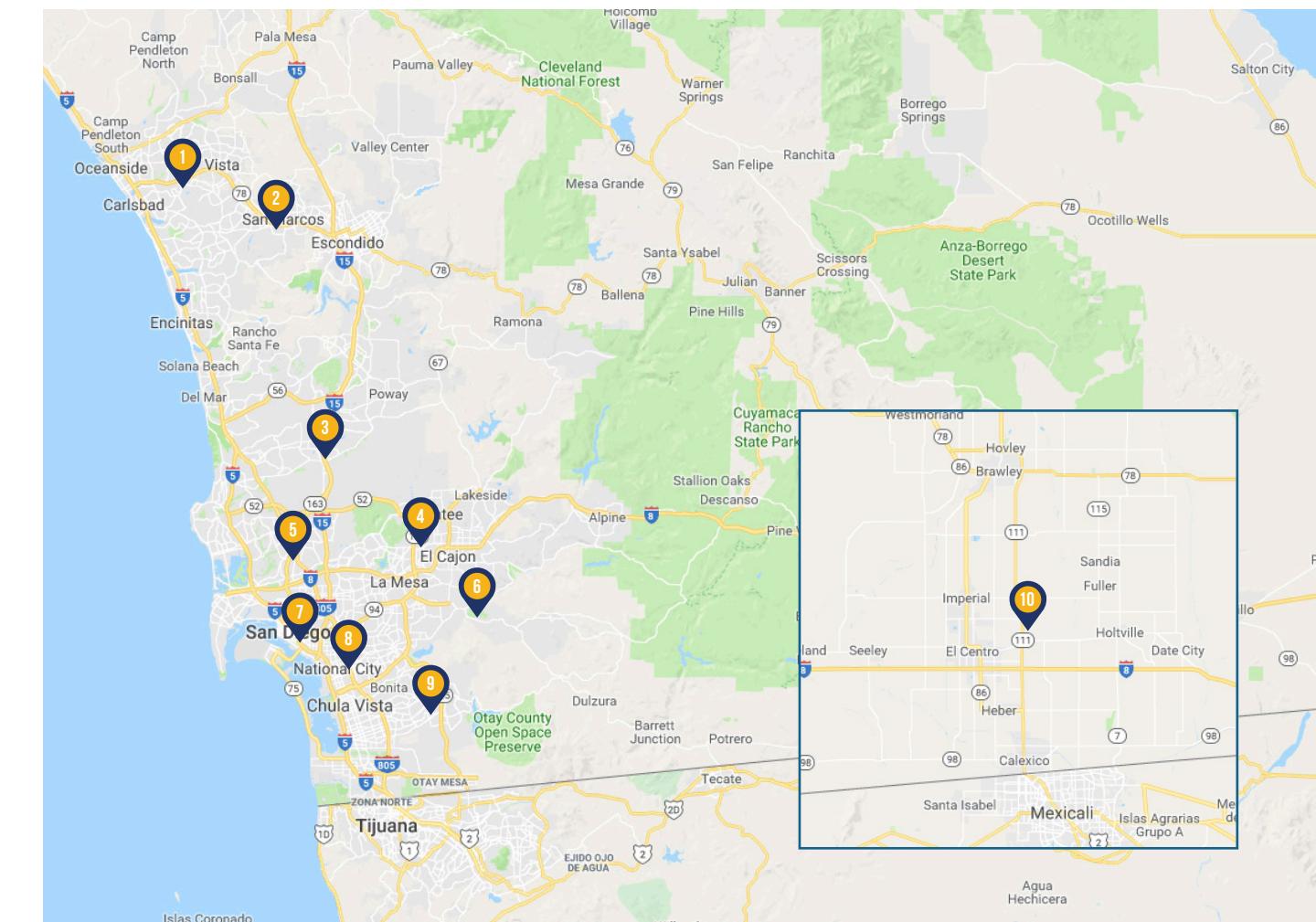
K-12 CROSSWALK

COLLEGE MAP

CCCCO SECTORS



CDE PATHWAYS



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.



To explore community college programs in this sector, visit CareerEd.org

ADDITIONAL RESOURCES



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/>



Counselor Conference

Links to breakout session handouts, PowerPoints, and more.

<http://myworkforceconnection.org/>



Core Academics for Careers

A project of SB1070 CTE Regional Pathways, this website provides resources that expand college pathways into the middle and high school setting through professional development, curriculum, and industry connections.

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



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

About colleges, explore careers, choose a college, apply for college, pay for college.

<https://www.cccmypath.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/>



CTE Model Curriculum Standards

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/



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



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>



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/>



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/>



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/



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>

LEARN MORE. EARN MORE.

CareerEd.org



POWERED BY
California Community Colleges



C·O·E
CENTERS OF EXCELLENCE
Inform Connect Advance