


# ADVANCED MANUFACTURING


SAN DIEGO COUNTY

## FAST FACTS\*

 **111,197**  
people employed

 **4% (4,792)**  
5-year projected job growth

 **3,168**  
businesses

 **8%**  
of the sector's  
employment in California

 **\$99,907**  
average earnings per job

 **8%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- San Diego County's Advanced Manufacturing sector includes **aerospace, maritime, clean technology, biomedical devices and products, pharmaceuticals, sporting goods, beverage and precision manufacturing.**
- **62%** of students who graduated from the San Diego-Imperial community colleges' Advanced Manufacturing programs in 2016 were employed after a year of exiting post-secondary education.
- Most employers have difficulty finding qualified candidates for **computer numerically controlled machine tool programmers, mechanical engineers and machinists.**
- Because **Advanced Manufacturers are small, specialized firms**, employers invest significant resources in training their workforce and providing personnel opportunities for job growth.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & San Diego Workforce Partnership

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

### What jobs require a high school diploma + postsecondary training (e.g., certificate)?

### How much will I earn per hour?

● Entry-Level 10th percentile    ● Median 50th percentile    ● Experienced 90th percentile

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Maintenance and Repair Workers, General	\$15	\$18	\$24
Computer-Controlled Machine Tool Operators, Metal and Plastic	\$16	\$22	\$27
Machinists	\$16	\$22	\$28
Industrial Machinery Mechanics	\$22	\$27	\$31
Structural Iron and Steel Workers	\$22	\$32	\$41

### What jobs require an associate degree or higher?

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Civil Engineering Technicians	\$18	\$25	\$30
Mechanical Drafters	\$23	\$28	\$36
Computer Network Support Specialists	\$26	\$33	\$39
Electrical and Electronics Engineering Technicians	\$25	\$32	\$40

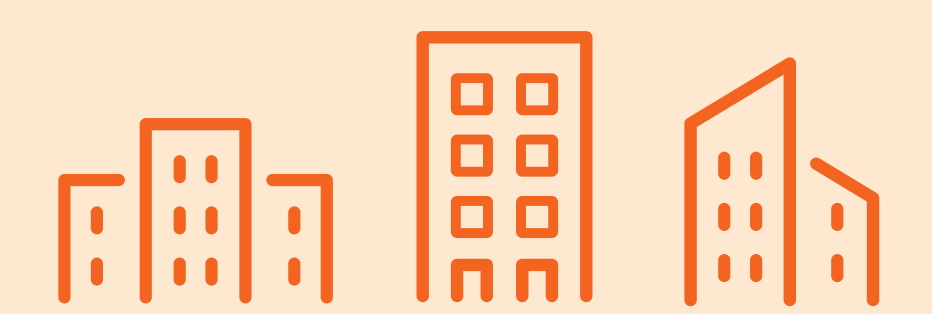
\*Fast facts and labor market data for 2017. Source: EMSI. Data set 2018.04

## SAMPLE OF LOCAL EMPLOYERS

General Atomics  
BAE Systems  
Cymer Incorporated

Northrop Grumman  
GKN Aerospace  
Teledyne Technologies

Orbital ATK  
UTC Aerospace Systems







# ADVANCED TRANSPORTATION AND LOGISTICS

SAN DIEGO COUNTY

## FAST FACTS\*

 **50,443**  
people employed

 **13% (6,452)**  
5-year projected job growth

 **1,954**  
businesses

 **8%**  
of the sector's  
employment in California

 **\$95,760**  
average earnings per job

 **8%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- The Advanced Transportation and Logistics sector includes **road, marine, air and rail transport**.
- To reduce CO2 emissions and meet transportation needs of a growing global population, public transit increasingly uses **new technologies** such as smart ticketing systems, electric/hybrid buses, high-speed rails, and driverless shuttles.
- **Freight, transportation, delivery, and port operations** are the largest industries within the Advanced Transportation sector in California. Most jobs in Advanced Transportation are concentrated in Southern California.
- According to the San Diego Air and Space Museum, **San Diego is known as the birthplace of naval aviation**; the use of the aircraft carrier as a maritime weapon occurred between 1920 and 1940 in San Diego.
- **73%** of San Diego-Imperial community college students who completed Advanced Transportation and Logistics programs in 2016 attained a living wage.

Sources: San Diego-Imperial Center of Excellence for Labor Market Research, marketresearch.com, San Diego Air and Space Museum & Cal-PASS Plus LaunchBoard

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per hour?

● Entry-Level (10th percentile)    ● Median (50th percentile)    ● Experienced (90th percentile)

Automotive Service Technicians and Mechanics	\$12	\$18	\$26
Cargo and Freight Agents	\$16	\$20	\$24
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	\$15	\$19	\$26
Production, Planning, and Expediting Clerks	\$18	\$23	\$29
Aircraft Mechanics and Service Technicians	\$26	\$30	\$35

What jobs require an associate degree or higher?

Mechanical Engineering Technicians	\$21	\$28	\$35
Electrical and Electronics Engineering Technicians	\$25	\$32	\$40
Cost Estimators	\$25	\$31	\$42
Logisticians	\$33	\$41	\$48
Aerospace Engineers	\$42	\$52	\$62

\*Fast facts and labor market data for 2017 based on the region's top export industries. Source: EMSI. Data set 2018.04

## SAMPLE OF LOCAL EMPLOYERS

General Dynamics NASSCO  
BEA Systems  
Northrup Grumman

Port of San Diego  
UTC Aerospace Systems  
DJO Global

Grupo Logistics  
WorldTrans  
Globe Trade Services  
San Diego Metropolitan Transit System





# AGRICULTURE, WATER AND ENVIRONMENTAL TECHNOLOGIES

SAN DIEGO COUNTY

## FAST FACTS\*

**36,966**  
people employed

**3% (1,188)**  
5-year projected job growth

**1,478**  
businesses

**5%**  
of the sector's  
employment in California

**\$46,398**  
average earnings per job

**6%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- There are more than **45 certified farmers' markets** in San Diego County.
- More than **83%** of students who graduated from the San Diego-Imperial community colleges' Water and Wastewater Technology and Environmental Technology programs in 2016 attained living wages.
- Due to a shortage of agricultural workers in recent years, adoption of new technologies and processes have never been more prevalent on local farms. Many growers have large machine shops on their properties to fabricate and repair mechanical field equipment. Demand for occupations related to the **fabrication and repair of mechanized equipment** is expected to rise.
- According to the San Diego Farm Bureau, San Diego County has the **12th largest farm economy** out of 3,000+ counties. Additionally, **San Diego has more small farms** (less than 10 acres) than any other county in the nation.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & Cal-PASS Plus LaunchBoard

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

### What jobs require a high school diploma + postsecondary training (e.g., certificate)?

### How much will I earn per hour?

● Entry-Level 10th percentile    ● Median 50th percentile    ● Experienced 90th percentile

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Farmers, Ranchers, and Other Agricultural Managers	\$11	\$14	\$36
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$15	\$18	\$28
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$18	\$25	\$37
Water and Wastewater Treatment Plant and System Operators	\$27	\$33	\$41

### What jobs require an associate degree or higher?

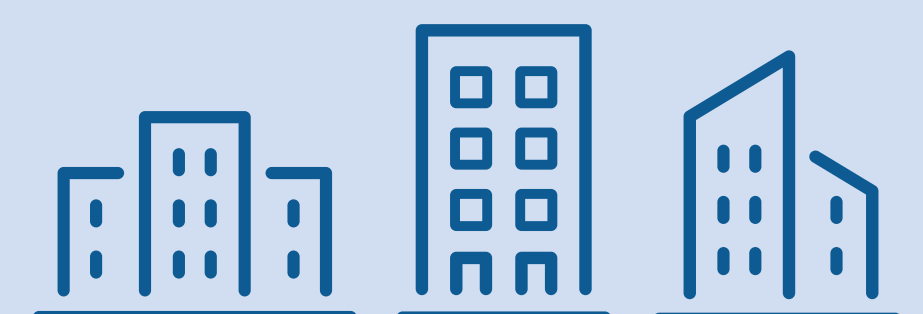
Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Agricultural and Food Science Technicians	\$17	\$20	\$24
Environmental Science and Protection Technicians	\$19	\$23	\$29
Environmental Engineering Technicians	\$23	\$30	\$41
Sales Managers	\$32	\$49	\$76
General and Operations Managers	\$33	\$52	\$80

\*Fast facts and labor market data for 2017. Source: EMSI. Data set 2018.04

## SAMPLE OF LOCAL EMPLOYERS

U.S. Forest Service  
LaBrucherie Produce  
Environmental Science Associates

Ocean Associates  
Lynker Technologies  
Snipes-Dye Associates



SAN DIEGO & IMPERIAL COUNTIES  
COMMUNITY COLLEGES

Visit [CareerEd.org](http://CareerEd.org) to find community college programs in Agriculture, Water and Environmental Technologies.



# BUSINESS AND ENTREPRENEURSHIP

**SAN DIEGO COUNTY**

## **i** FAST FACTS\*



**354,386**  
people employed



**4% (15,347)**  
5-year projected job growth



**27,766**  
businesses



**9%**  
of the sector's  
employment in California



**\$85,244**  
average earnings per job



**10%**  
of the sector's  
businesses in California

## **👉** DID YOU KNOW?

- **95%** of San Diego County's employers have **less than 50 employees**. Small employers are prone to hire through personal or professional networks and word-of-mouth marketing.
- Entrepreneurs reported the following skills to be most useful when starting a business: **social media, marketing, accounting, Information Technology (IT), and employee recruiting**.
- Business owners ranked previous **work experience, critical thinking and problem solving** to be the most important traits for new hires.
- More than **1,800** San Diego-Imperial community college students who exited a Business and Entrepreneurship program experienced a **37% increase** in earnings.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & Cal-PASS Plus LaunchBoard

## **👜** TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

**What jobs require a high school diploma + postsecondary training (e.g., certificate)?**

**How much will I earn per hour?**

● Entry-Level 10th percentile    ● Median 50th percentile    ● Experienced 90th percentile

Customer Service Representatives	\$14	\$18	\$22
Secretaries and Administrative Assistants	\$17	\$21	\$26
Sales Representatives, Services	\$18	\$24	\$34
Supervisors of Office and Administrative Support Workers	\$22	\$27	\$34
Claims Adjusters, Examiners, and Investigators	\$24	\$30	\$38

**What jobs require an associate degree or higher?**

Human Resources Assistants, Except Payroll and Timekeeping	\$18	\$21	\$24
Credit Counselors and Loan Officers	\$22	\$31	\$50
Market Research Analysts and Marketing Specialists	\$22	\$30	\$42
General and Operations Managers	\$33	\$52	\$80

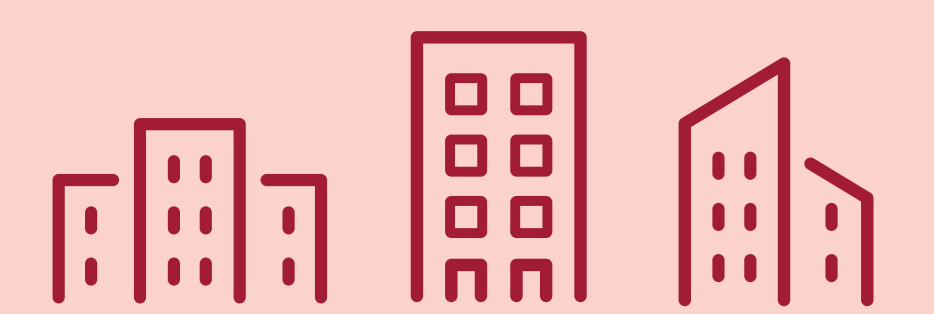
\*Fast facts and labor market data for 2017 based on NAICS 52-56. Source: EMSI. Data set 2018.04



## **SAMPLE OF LOCAL EMPLOYERS**

Veterans Business Outreach Center (VBOC)  
Small Business Development Center (SBDC)  
CONNECT San Diego

Economic Development Councils  
Chambers of Commerce  
Women's Business Center of California






# ENERGY, CONSTRUCTION AND UTILITIES


SAN DIEGO COUNTY

## FAST FACTS\*


 **121,035**  
people employed

 **7% (8,746)**  
5-year projected job growth

 **10,128**  
businesses

 **10%**  
of the sector's  
employment in California

 **\$78,498**  
average earnings per job

 **10%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- The majority of “clean energy” companies in San Diego County specialize in **energy efficiency for buildings and renewable energies such as solar power.**
- Employers in the building and construction trades industry prefer to hire journeymen who have completed successful apprenticeships. There are more than **50 apprenticeship programs** that train San Diegans for this industry.
- More than **75%** of students who graduated from the San Diego-Imperial community colleges’ Energy, Construction and Utilities programs in 2016 attained living wages.
- This sector is a great fit for job seekers interested in the **environment and working with their hands.**
- For job seekers looking to become more competitive in the sector, obtaining a **professional licensure** validates the skills that they possess to employers.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & San Diego Workforce Partnership

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per hour?

● Entry-Level 10th percentile    ● Median 50th percentile    ● Experienced 90th percentile

Job Title	Entry-Level (10th percentile)	Median (50th percentile)	Experienced (90th percentile)
Construction Laborers	\$13	\$16	\$20
Carpenters	\$14	\$19	\$27
Plumbers and Pipefitters	\$18	\$24	\$29
Electricians	\$19	\$28	\$39
Construction and Building Inspectors	\$26	\$35	\$44
First-Line Supervisors of Construction Trades and Extraction Workers	\$26	\$36	\$45

What jobs require an associate degree or higher?

Job Title	Entry-Level (10th percentile)	Median (50th percentile)	Experienced (90th percentile)
Civil Engineering Technicians	\$18	\$25	\$30
Architectural and Civil Drafters	\$25	\$28	\$35
Electrical and Electronics Drafters	\$25	\$29	\$33
Electrical and Electronics Engineering Technicians	\$25	\$32	\$40

\*Fast facts and labor market data for 2017. Source: EMSI. Data set 2018.04

## SAMPLE OF LOCAL EMPLOYERS

San Diego Gas & Electric  
Renovate America  
EMCOR Group

EDF Renewable Energy  
HD Supply  
AECOM Technology Corporation

Sempra Energy  
Solar Turbines  
Horizon Solar Power  
Flatiron Construction






# GLOBAL TRADE


## SAN DIEGO COUNTY

### FAST FACTS\*

 **86,712**  
people employed

 **5% (4,386)**  
5-year projected job growth

 **1,869**  
businesses

 **10%**  
of the sector's  
employment in California

 **\$110,353**  
average earnings per job

 **8%**  
of the sector's  
businesses in California

### DID YOU KNOW?

- In 2017, **U.S. goods and services trade with Mexico** amounted to approximately **\$616.6 billion**, with \$276.2 billion in exports and \$340.3 billion in imports.
- Exports from San Diego County increased nearly every year since 2009. In 2016, exports from San Diego totaled **\$18.1 billion**.
- **Computer and Electronic Product Manufacturing** was the largest export industry in 2016 for San Diego County, comprising **16.5% of San Diego County's total exports**.
- **79%** of San Diego-Imperial community college students who completed Global Trade programs in 2016 attained a living wage.

Source: Office of the United States Trade Representative, International Trade Administration, San Diego-Imperial Center of Excellence for Labor Market Research & Cal-PASS Plus LaunchBoard

### TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

#### What jobs require a high school diploma + postsecondary training (e.g., certificate)?

#### How much will I earn per hour?

 Entry-Level  
10th percentile      Median  
50th percentile      Experienced  
90th percentile

Shipping, Receiving, and Traffic Clerks	\$13	\$16	\$19
Order Clerks	\$14	\$19	\$23
Cargo and Freight Agents	\$16	\$20	\$29
Production, Planning, and Expediting Clerks	\$18	\$23	\$29
Transportation, Storage, and Distribution Managers	\$34	\$41	\$58
<b>What jobs require an associate degree or higher?</b>			
Cost Estimators	\$25	\$31	\$42
Buyers and Purchasing Agents	\$24	\$31	\$41
Business Operations Specialists	\$27	\$37	\$50
Logisticians	\$33	\$41	\$48

\*Fast facts and labor market data for 2017 based on the region's top export industries. Source: EMSI. Data set 2018.04

### SAMPLE OF LOCAL EMPLOYERS

WorldTrans Services  
American Cargoservice  
JE-Exports

Mercatus International  
M&M Import and Export  
Consolidated International Corp



**SAN DIEGO & IMPERIAL COUNTIES  
COMMUNITY COLLEGES**

Visit [CareerEd.org](http://CareerEd.org) to find  
community college  
programs in Global Trade.




# HEALTH CARE


SAN DIEGO COUNTY

## FAST FACTS\*


 **131,614**  
people employed

 **18% (23,556)**  
5-year projected job growth

 **7,551**  
businesses

 **8%**  
of the sector's  
employment in California

 **\$73,870**  
average earnings per job

 **9%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- Health Care is considered **“recession-proof”** because employment increased during the 2007-2009 recession when most sectors experienced job decline.
- Health Care occupations are great for individuals interested in **learning on the job**. Health Care professionals need to regularly develop their technical skills as new research and technology change the field.
- Job seekers interested in a Health Care career would benefit from **interning or volunteering at Health Care facilities**. Employers prefer candidates with **prior work experience** and report that to be the number one reason why they have difficulty in hiring qualified candidates.
- When selecting a Health Care training program, be sure to research the **necessary clinical hours** for the profession. Occupations such as Registered Nurses require clinical training hours for students to become fully certified.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & San Diego Workforce Partnership

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per hour?

● Entry-Level 10th percentile    ● Median 50th percentile    ● Experienced 90th percentile

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Medical Assistants	\$15	\$17	\$20
Medical Secretaries	\$16	\$19	\$23
Dental Assistants	\$16	\$18	\$21
Medical Records & Health Information Technicians	\$17	\$21	\$28
Health Technologists and Technicians	\$18	\$21	\$25
Licensed Practical & Licensed Vocational Nurses	\$22	\$26	\$30

What jobs require an associate degree or higher?

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Physical Therapist Assistants	\$22	\$27	\$34
Respiratory Therapists	\$33	\$38	\$45
Registered Nurses	\$37	\$45	\$54
Dental Hygienists	\$41	\$45	\$49

\*Fast facts and labor market data for 2017. Source: EMSI. Data set 2018.04

## SAMPLE OF LOCAL EMPLOYERS

UC San Diego Health System  
Rady Children's Hospital  
Kaiser Permanente

Sharp Health System  
Scripps Health System  
Mental Health Systems

St. Paul Senior Services  
Seaport Home Health & Hospice  
AccentCare  
Family Health Centers of San Diego





# ICT AND DIGITAL MEDIA

SAN DIEGO COUNTY

## FAST FACTS\*



**115,622**  
people employed



**4% (4,611)**  
5-year projected job growth



**7,880**  
businesses



**7%**  
of the sector's  
employment in California



**\$104,589**  
average earnings per job



**9%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- ICT workers develop new innovative products and services that **improve productivity** of firms across all industries. ICT companies include those in **telecommunications, web development, data analytics, cybersecurity, video game development, and computer software**.
- ICT and Digital Media employers place significant value in **industry certifications and/or portfolios of previous work**. Industry-based certifications are offered by the companies who developed the software, such as Microsoft, Cisco or CompTIA. Certificates are awarded based on completion of coursework and typically require a set number of instructional hours.
- ICT companies can range from **small, innovative startup companies** with less than 5 employees to **large, global corporations** with more than 1,000 employees.
- 63%** of students who graduated from the San Diego-Imperial community colleges' ICT and Digital Media programs in 2016 were employed after a year of exiting post-secondary education.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & San Diego Workforce Partnership

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per hour?

● Entry-Level  
10th percentile

● Median  
50th percentile

● Experienced  
90th percentile

Receptionists and Information Clerks

\$13 — \$15 — \$18

Photographers

\$15 — \$17 — \$19

Billing and Posting Clerks

\$16 — \$20 — \$26

Audio and Video Equipment Technicians

\$16 — \$22 — \$28

Computer User Support Specialists

\$22 — \$27 — \$33

What jobs require an associate degree or higher?

Desktop Publishers

\$15 — \$25 — \$33

Web Developers

\$16 — \$21 — \$33

Graphic Designers

\$18 — \$21 — \$26

Computer User Support Specialists

\$22 — \$27 — \$33

Computer Network Support Specialists

\$26 — \$33 — \$39

\*Fast facts and labor market data for 2017. Source: EMSI. Data set 2018.04



## SAMPLE OF LOCAL EMPLOYERS

Intuit  
Viasat  
Teradata Operations

Cubic Corporation  
Qualcomm  
Sony Electronics

United Support Services  
Steelcase  
VerveTM



SAN DIEGO & IMPERIAL COUNTIES  
COMMUNITY COLLEGES

Visit [CareerEd.org](http://CareerEd.org) to find  
community college programs  
in ICT and Digital Media.




# LIFE SCIENCES AND BIOTECHNOLOGY


SAN DIEGO COUNTY

## FAST FACTS\*


 **57,335**  
people employed

 **9% (5,231)**  
5-year projected job growth

 **1,518**  
businesses

 **16%**  
of the sector's  
employment in California

 **\$152,266**  
average earnings per job

 **13%**  
of the sector's  
businesses in California

## DID YOU KNOW?

- Life Sciences is considered **“recession-proof”** because employment increased during the 2007-2009 recession when most sectors experienced job decline.
- San Diego has consistently ranked as one of the **top 10 regions** in the country for Life Sciences innovation.
- **63%** of students who graduated from the San Diego-Imperial community colleges' Life Sciences – Biotechnology programs in 2016 were employed after a year of exiting post-secondary education.
- While the sector has considerable barriers to entry for its career pathways, individuals who are able to succeed in this industry are typically rewarded with **high-paying, challenging positions** that provide considerable advancement opportunities.
- Life Sciences and Biotechnology is a sector that exists at the crossroads of **innovative scientific research and the dynamic market economy**. It is comprised of professional, scientific and technical industries that involve the **scientific study of living organisms**.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & San Diego Workforce Partnership

## TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION\*

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per hour?

● Entry-Level 10th percentile    ● Median 50th percentile    ● Experienced 90th percentile

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Chemical Equipment Operators and Tenders	\$13	\$19	\$27
Medical Appliance Technicians	\$13	\$19	\$29
Inspectors, Testers, Sorters, Samplers, and Weighers	\$15	\$19	\$25
Ophthalmic Laboratory Technicians	\$15	\$19	\$24
Chemical Plant and System Operators	\$23	\$29	\$36

What jobs require an associate degree or higher?

Job Title	Entry-Level 10th percentile	Median 50th percentile	Experienced 90th percentile
Chemical Technicians	\$17	\$23	\$31
Medical Equipment Repairers	\$19	\$24	\$33
Life, Physical, and Social Science Technicians	\$19	\$26	\$35
Biological Technicians	\$20	\$24	\$30
Clinical Laboratory Technologists and Technicians	\$24	\$37	\$49
Engineering Technicians	\$26	\$33	\$42

\*Fast facts and labor market data for 2017. Source: EMSI. Data set 2018.04

## SAMPLE OF LOCAL EMPLOYERS

UC San Diego  
Pfizer  
Carefusion

Illumina  
Thermo Fisher Scientific  
Celgene Corporation

Alere Incorporated  
Leidos  
Hovione



SAN DIEGO & IMPERIAL COUNTIES  
COMMUNITY COLLEGES

Visit [CareerEd.org](http://CareerEd.org) to find  
community college programs in  
Life Sciences and Biotechnology.