

0201.00 -Architecture/ Architectural Technology



Students in an architecture/architectural technology program learn skills needed to assist in architectural design in the construction field. Skills acquired include Computer-Aided Drafting (CAD), structural design, preparing cost estimates, interpreting blueprints, testing materials, developing floor plans for residential or commercial buildings, conducting environmental impact studies, and dealing with contracts, codes, and specifications. **The projected job growth for architects is 4% through 2026.**

Average Salaries in the San Francisco Bay Area for these related occupations:

Entry-Level Architectural Designer	\$51,852
CAD Drafter	\$64,272
Civil Engineer	\$70,818
Project Manager, Architect	\$82,968
Construction Project Manager	\$99,423

Related Careers

Architect
Civil Engineer
Construction Manager
Drafter
Engineering Technician

Education needed to be a licensed architect:

Bachelor's degree in architecture

Internship in architectural firm

Pass the Architect Registration Exam

Take continuing education courses to maintain license

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Architectural & Civil Drafters	13,900	14,100	1.4	180
Architectural & Engineering Managers	30,300	33,400	10.2	1,240

Sources:

<https://bigfuture.collegeboard.org/majors/architecture-planning-architectural-technology>
https://www.payscale.com/research/US/Job=Architectural_Designer/Salary/5f6f56f3/Entry-Level-San-Francisco-CA
<https://www.indeed.com/salaries/CAD-Drafter-Salaries,-San-Francisco-Bay-Area-CA>
https://www.payscale.com/research/US/Job=Civil_Engineer/Salary/42ecdb4b/San-Francisco-CA
https://www.payscale.com/research/US/Job=Project_Manager%2C_Architecture/Salary/89b3c7f1/San-Francisco-CA
https://www.payscale.com/research/US/Job=Project_Manager%2C_Construction/Salary/c0b07b16/San-Francisco-CA
<https://www.bls.gov/ooh/architecture-and-engineering/architects.htm>
<http://www.projectionscentral.com/Projections/LongTerm>

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0934.00 – Electronics & Electric Technology



Students in an electronics and electric technology program learn theory and application of electric and electronic systems and components and basic skills needed to operate, maintain, install, and repair electrical and electronic equipment. Students gain knowledge about circuits, electro-magnetic fields, energy sources, communication devices, radio and television circuits, computers, and other electric and electronic components and devices. **According to the Bureau of Labor Statistics, employment of electricians is projected to grow 9 percent through 2026.**

Average Salaries in the San Francisco Bay Area for these related occupations:

Electronics Technician	\$51,975
Journeyman Electrician	\$67,434
Electrician	\$90,490
Electrical Engineer	\$96,023

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Electrical & Electronics Engineering Technicians	22,900	24,400	6.6	710
Electricians	58,400	77,400	32.5	2,790
Electrical Engineers	24,300	26,800	10.3	790

Sources:

<https://bigfuture.collegeboard.org/majors/mechanic-repair-technologies-electronics-maintenance-repair-electronics-technology>
<https://www.bls.gov/ooh/construction-and-extraction/electricians.htm>
https://www.glassdoor.com/Salaries/san-francisco-electronics-technician-salary-SRCH_IL0,13_IM759_KO14,36.htm
<https://www1.salary.com/CA/San-Francisco/Telecommunications-Technician-I-Salary.html>
https://www.glassdoor.com/Salaries/san-francisco-journeyman-electrician-salary-SRCH_IL0,13_IM759_KO14,36.htm
<http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Electrical Engineer
- Electrician
- Electronics Technician
- Engineering Technician

Education needed to be a licensed electrician:

High school diploma

Technical Trade school or certificate/degree at community college

4 to 5 years in an apprenticeship program

Pass exam administered by Contractor's State Licensing Board to obtain C-10 Electrical Contractor's License

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0934.40 – Electrical Systems and Power Transmission



Students in an electrical systems and power transmission program apply technical knowledge and skills to install indoor, outdoor, commercial and industrial electrical systems and associated power transmission lines. Includes instruction in electricity, safety procedures, wiring, insulation and grounding, schematic blueprint interpretation, equipment operation and maintenance, and applicable codes and standards. **Job growth for electrical line installers and repairers is projected to grow 8% through 2026 while power plant operators, distributors, and dispatchers show little or no growth through 2026.**

Average Salaries in the San Francisco Bay Area for these related occupations:

Instrument & Control Technician	\$57,165
Power Plant Operator	\$70,611
Stationary Engineer	\$86,857
Electrical Lineman	\$92,454

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Electrical Power-Line Installers & Repairers	6,800	8,000	17.6	390
Stationary Engineers & Boiler Operators	4,000	4,400	10.0	140

Sources:

- <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?v=55&cipid=88605>
- <https://www.bls.gov/ooh/installation-maintenance-and-repair/line-installers-and-repairers.htm#tab-1>
- <https://www1.salary.com/CA/Instrument-Technician-I-salary.html>
- <https://www1.salary.com/CA/Power-Plant-Operator-I-salary.html>
- <https://www.indeed.com/salaries/Stationary-Engineer-Salaries,-San-Francisco-CA>
- <https://www1.salary.com/CA/San-Francisco/Lineman-salary.html>
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Electrical Line Installers
- Power Plant Operator
- Power Dispatcher
- Instrument & Control Technician
- Stationary Engineer

Education preferred by employers:

High school diploma

Technical Trade school or certificate/degree at community college

Long-term on the job training

Pass exam administered by Contractor's State Licensing Board to obtain C-10 Electrical Contractor's License

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0935.00 – Electro-Mechanical Technology

Students in an electro-mechanical technology program learn to install and repair automated equipment, robots, and manufacturing systems. This program prepares students to apply engineering principles and technical skills to projects developing and testing automated, servo-mechanical, and other electro-mechanical systems. Includes instruction in prototype testing, manufacturing and operational testing, systems analysis, maintenance procedures, and report preparation. **According to the Bureau of Labor Statistics, employment of electro-mechanical technicians is projected to grow 4 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Electro-Mechanical Technician	\$46,000
Mechanical Drafter	\$54,191
Instrumentation Technician	\$70,658
Mechanical Engineer	\$90,581
Automation Engineer	\$136,343

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Electro-Mechanical Technicians	1,900	2,000	5.3	50
Mechanical Engineers	24,100	27,000	12.0	1,050

Sources:

- <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cip=15.0403>
- https://study.com/electromechanical_tech_school.html
- https://www.glassdoor.com/Salaries/electro-mechanical-technician-salary-SRCH_KO0,29.htm
- https://www.glassdoor.com/Salaries/san-francisco-mechanical-drafter-salary-SRCH_IL0,13_IM759_KO14,32.htm
- https://www.glassdoor.com/Salaries/san-francisco-instrumentation-technician-salary-SRCH_IL0,13_IM759_KO14,40.htm
- https://www.glassdoor.com/Salaries/san-francisco-mechanical-engineer-salary-SRCH_IL0,13_IM759_KO14,33.htm
- <https://www.indeed.com/salaries/Automation-Engineer-Salaries,-San-Francisco-Bay-Area-CA>
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Drafter
- Robotics Technician
- Electronics Installer & Repairer
- Mechanical Engineer

Education preferred by employers:

Associate's degree in Electro-Mechanical Technology

For advancement:

- Bachelor's degree in Electromechanical Engineering Technology
- Master's degree in Engineering Integrated Microsystems

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0945.00 – Industrial Systems Technology and Maintenance

Students in an industrial systems technology and maintenance program learn safety, design, construction, maintenance, and operation of mechanical, hydraulic, pneumatic, and electrical equipment and related systems, such as production machinery. This field of study also includes building and plant maintenance. **According to the Bureau of Labor Statistics, employment for industrial machinery mechanics and machinery maintenance workers is projected to grow 7 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Industrial Maintenance Technician	\$50,664
Industrial Maintenance Mechanic	\$54,776
Industrial Designer	\$74,898
Industrial Production Manager	\$98,232
Industrial Systems Engineer	\$98,875

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Industrial Machinery Mechanics	24,400	30,600	25.4	1,250
Industrial Engineer	24,700	27,200	10.1	980

Sources

- <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?v=55&cip=15.0403>
- <https://www.bls.gov/ooh/installation-maintenance-and-repair/industrial-machinery-mechanics-and-maintenance-workers-and-millwrights.htm>
- https://study.com/articles/Industrial_Electronics_Maintenance_Technician_Job_Information_and_Requirements_for_a_Career_in_Industrial_Electronic_Maintenance.html
- https://www.glassdoor.com/Salaries/san-francisco-industrial-maintenance-technician-salary-SRCH_IL0,13_IM759_KO14,47.htm
- https://www.glassdoor.com/Salaries/san-francisco-maintenance-mechanic-salary-SRCH_IL0,13_IM759_KO14,34.htm
- https://www.glassdoor.com/Salaries/san-francisco-industrial-designer-salary-SRCH_IL0,13_IM759_KO14,33.htm
- https://www.glassdoor.com/Salaries/san-francisco-industrial-production-manager-salary-SRCH_IL0,13_IM759_KO14,43.htm
- https://www.glassdoor.com/Salaries/san-francisco-industrial-systems-engineer-salary-SRCH_IL0,13_IM759_KO14,41.htm
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Avionics Technician
- Industrial Designer
- Quality Assurance Technician
- Industrial Production Manager

Education preferred by employers:

- Associate's degree in Industrial Systems Technology & Maintenance
- Journeyman-Level Certified Electronics Technician Credential from International Society of Certified Electronic Technicians

For advancement:

- Bachelor's degree in Mechatronics or Engineering

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0946.00 – Environmental Control Technology (HVACR)

Students in an environmental control technology program learn assembly, installation, operation, maintenance, and repair of air conditioning, heating, and refrigeration systems. This program prepares students to apply basic engineering principles and technical skills in support of engineers engaged in developing and using air conditioning, refrigeration, ventilation, and heating systems. **According to the Bureau of Labor Statistics, employment of heating, air conditioning, and refrigeration mechanics and installers is projected to grow 15 percent through 2026.**

Average Salaries in the San Francisco Bay Area for these related occupations:

HVAC Mechanic	\$54,488
Sheet Metal Worker	\$69,148
Energy Analyst	\$76,074
Project Engineer	\$85,085
HVAC Project Manager	\$96,041

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Heating, Air Conditioning, and Refrigeration Mechanics & Installers	22,300	29,400	31.8	1,050
Sheet Metal Workers	13,000	16,000	23.1	590

Sources

<https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=88261>

<https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cip=15.0403>

<https://www1.salary.com/CA/HVAC-Mechanic-I-Salary.html>

<http://www.labormarketinfo.edd.ca.gov/OccGuides/Detail.aspx?Soccode=472211&geography=0604000081>

https://www.glassdoor.com/Salaries/san-francisco-energy-analyst-salary-SRCH_IL0,13_IM759_KO14,28.htm

https://www.glassdoor.com/Salaries/san-francisco-project-engineer-salary-SRCH_IL0,13_IM759_KO14,30.htm

https://www.glassdoor.com/Salaries/san-francisco-hvac-project-manager-salary-SRCH_IL0,13_IM759_KO14,34.htm

<http://www.projectionscentral.com/Projections/LongTerm>



Related Careers

- Energy Analyst
- Electrician
- Sheet Metal Worker
- Solar Photovoltaic Installer
- Environmental Engineer

Education preferred by employers:

- Associate's degree
- Environmental Control Technology

- North American Technician Excellence (NATE) certification for HVAC and refrigeration technicians

- Pass exam administered by Contractor's State Licensing Board to be C-20 HVAC Contractor

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0946.10 – Energy Systems Technology Management

Students in an energy systems technology management program apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing energy-efficient systems or monitoring energy use. Includes instruction in principles of energy conservation, instrumentation calibration, monitoring systems and test procedures, energy loss inspection procedures, energy conservation techniques, and report preparation. **According to the Bureau of Labor Statistics, employment of solar PV installers is projected to grow 105 percent through 2026 and demand for energy auditors and consultants will continue to grow.**

Average Salaries in the San Francisco Bay Area for these related occupations:

Solar Photovoltaic Installer	\$48,700
Residential Energy Consultant	\$53,006
Solar Sales Consultant	\$59,444
Energy Engineering Technologist	\$79,731
Energy Systems Engineer	\$98,875

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Solar Photovoltaic Installers	2,900	4,200	44.8	180
Environmental Engineering Technicians	2,000	2,400	20.0	90

Sources

- <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=88262>
- <https://www.bls.gov/ooh/construction-and-extraction/solar-photovoltaic-installers.htm>
- <https://www.recruiter.com/salaries/solar-photovoltaic-installers-salary/>
- https://www.glassdoor.com/Salaries/san-francisco-residential-energy-consultant-salary-SRCH_IL0,13_IM759_KO14,43.htm
- https://www.glassdoor.com/Salaries/san-francisco-solar-sales-consultant-salary-SRCH_IL0,13_IM759_KO14,36.htm
- https://www.glassdoor.com/Salaries/san-francisco-energy-technologist-salary-SRCH_IL0,13_IM759_KO14,33.htm
- https://www.glassdoor.com/Salaries/san-francisco-energy-systems-engineer-salary-SRCH_IL0,13_IM759_KO14,37.htm
- <http://www.projectionscentral.com/Projections/LongTerm>



Related Careers

- Electrician
- Environmental Engineering Technician
- Construction & Building Inspector
- Environmental Engineer

Education preferred by employers:

- Associate's degree Energy Systems Management Technology
- 1-2 years of on-the-job training
- Certifications administered by Building Performance Institute and North American Board of Certified Energy Practitioners

For advancement:

- Bachelor's in Environmental or Energy Engineering

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0952.00 – Construction Crafts Technology

Students in a construction crafts technology program learn lay out, fabrication, erection, and installation of structures using common systems of framing, construction materials, estimating, and blueprint reading. Students learn and apply basic engineering principles and technical skills necessary to help engineers and other professionals supervise the construction of buildings and other structures. **According to the Bureau of Labor Statistics, projected job growth for all construction laborers is 13 percent through 2024.**



Average Salaries in the San Francisco Bay Area for these related occupations:

CAD Drafter	\$64,272
Construction Estimator	\$64,831
Construction Inspector	\$67,760
Construction Engineering Technician	\$79,592
Construction Project Manager	\$117,381

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Solar Photovoltaic Installers	2,900	4,200	44.8	180
Environmental Engineering Technicians	2,000	2,400	20.0	90
Construction Laborers	1,159,100	1,306,500	12.7	37,860

Sources

- <https://bigfuture.collegeboard.org/majors/engineering-technologies-construction-technology>
- [https://study.com/articles/Construction Technician Job Description Duties and Requirements.html](https://study.com/articles/Construction_Technician_Job_Description_Duties_and_Requirements.html)
- <https://www.indeed.com/salaries/CAD-Drafter-Salaries,-San-Francisco-Bay-Area-CA>
- https://www.glassdoor.com/Salaries/san-francisco-construction-engineering-technician-salary-SRCH_IL0,13_IM759_KO14,49.htm
- https://www.glassdoor.com/Salaries/san-francisco-construction-estimator-salary-SRCH_IL0,13_IM759_KO14,36.htm
- <https://www.recruiter.com/salaries/construction-and-building-inspectors-salary/?id=construction-and-building-inspectors&statewages=California>
- https://www.glassdoor.com/Salaries/san-francisco-construction-project-manager-salary-SRCH_IL0,13_IM759_KO14,42.htm
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Architect
- Civil Engineer
- Construction Manager
- Construction & Building Inspector
- Environmental Engineer

Education preferred by employers:

Associate's degree in Construction Technology

1-2 years of on-the-job training at a construction site

Bachelor's degree in Construction Management, Construction Technology, Architecture, or Civil Engineering

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0952.10 – Carpentry

Students in a carpentry program learn layout, fabrication, erection, and installation of structures using common systems of framing, construction materials, estimating, and blueprint reading. Students learn to use different hand and power tools to cut and shape wood, plastic, fiberglass, or drywall. **According to the Bureau of Labor Statistics, projected job growth for carpenters is 8 percent through 2024.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Cabinet Maker/Bench Carpenter	\$41,022
Construction Framers	\$59,185
Carpenter	\$66,235
CAD Designer	\$70,775
First-Line Manager, Construction	\$94,657

Related Careers

Construction Laborers & Helpers
 CAD Drafters
 Roofers
 Solar Photovoltaic Installers
 Drywall & Ceiling Tile Installers

Education preferred by employers:

High school diploma or equivalent

3-4 year apprenticeship

Two-year technical school or Associate's degree in Carpentry at community college

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Carpenters	119,900	153,100	27.7	4,700
Dry Wall and Ceiling Tile Installers	24,900	33,100	32.9	980
First-Line Supervisors of Construction Trades	49,700	61,700	24.1	1,590

Sources

<https://www.bls.gov/ooh/construction-and-extraction/carpenters.htm>

<https://www.truity.com/career-profile/carpenter>

<https://www.comparably.com/salaries/salaries-for-cabinetmaker-bench-carpenter-in-san-francisco-ca>

<https://www.comparably.com/salaries/salaries-for-construction-framer-in-san-francisco-ca>

<https://www1.salary.com/CA/San%20Francisco/Carpenter-II-Salary.html>

<https://www.indeed.com/q-CAD-Designer-I-San-Francisco-County,-CA-jobs.html>

https://www.glassdoor.com/Salaries/san-francisco-first-line-manager-construction-salary-SRCH_IL0,13_IM759_KO14,45.htm

<http://www.projectionscentral.com/Projections/LongTerm>

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0952.20 – Electrical

Students in an electrical program learn installation, operation, maintenance, and repair of electrical systems in buildings, including residential, commercial, and industrial electric power wiring and motors, controls, and electrical distribution panels. **According to the Bureau of Labor Statistics, projected job growth for electricians is 9 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Entry-Level Electrical Estimator	\$65,144
Journeyman Electrician	\$67,434
Inside Wiremen	\$77,222
Electrician	\$90,490
Electrical Engineer	\$96,023

Related Careers

Renewable Energy Technician
Avionics Technician
Solar Photovoltaic Installer
Maintenance Technician

Education preferred by employers:

High school diploma

Technical Trade school or certificate/degree at community college

3-4 year apprenticeship

Pass exam administered by the Contractor's State Licensing Board to obtain C-10 Electrical Contractor's License

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Electricians	58,400	77,400	32.5	2,790
Maintenance & Repair Workers	120,500	135,500	12.4	4,660
Heating, Air Conditioning, and Refrigeration Mechanics & Installers	22,300	29,400	31.8	1,050

Sources

<https://www.bls.gov/ooh/construction-and-extraction/electricians.htm>

<https://careertrend.com/info-8050972-jobs-related-electrical.html>

https://www.payscale.com/research/US/Job=Electrical_Estimator/Salary/fba121d9/Entry-Level-San-Francisco-CA

<https://www.paysa.com/salaries/inside-wireman--san-francisco,-ca--tl>

https://www.glassdoor.com/Salaries/san-francisco-journeyman-electrician-salary-SRCH_IL0,13_IM759_KO14,36.htm

https://www.payscale.com/research/US/Job=Electrician/Hourly_Rate/ef7d6f94/San-Francisco-CA

https://www.glassdoor.com/Salaries/san-francisco-electrical-engineer-salary-SRCH_IL0,13_IM759_KO14,33.htm

<http://www.projectionscentral.com/Projections/LongTerm>

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0952.30 – Plumbing, Pipefitting, and Steamfitting

Students in a plumbing, pipefitting, and steamfitting program learn theories, principles, methods, technical skills, and use of equipment in plumbing, pipefitting, and steamfitting. **According to the Bureau of Labor Statistics, projected job growth for plumbers, pipefitters, and steamfitters is 16 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Pipe Layer	\$55,500
Fire Sprinkler Fitter	\$58,000
Plumber	\$63,000
Boilermaker	\$75,500
Construction Manager	\$94,657

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Plumbers, Pipefitters, and Steamfitters	40,300	51,900	28.8	1,690
Construction Managers	46,900	55,900	19.2	1,550

Sources

- <https://bigfuture.collegeboard.org/careers/construction-plumbers>
- <https://www.careerbuilder.com/salary-fire-sprinkler-fitter-in-san-francisco,ca?education=high-school>
- <https://www.careerbuilder.com/salary-pipe-layer-in-san-francisco,ca>
- <https://www.careerbuilder.com/salary-plumber-in-san-francisco,ca>
- <https://www.careerbuilder.com/salary-boilermaker-in-san-francisco,ca>
- https://www.glassdoor.com/Salaries/san-francisco-construction-manager-salary-SRCH_IL0,13_IM759_KO14,34.htm
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

Welder
Construction and Building Inspector
Boilermaker

Education preferred by employers:

High school diploma or equivalent

Technical Trade school or certificate/degree at community college

4-5 year apprenticeship

Pass exam administered by the Contractor's State Licensing Board to obtain C-36 Plumbing Contractor's License

Pass exam administered by the Contractor's State Licensing Board to obtain C-4 Boiler, Hot Water Heating and Steam Fitting Contractor's License

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0953.30 – Electrical, Electronic, and Electro-Mechanical Drafting

Students in an electrical, electronic, and electro-mechanical drafting program learn to develop working schematics and representations in support of electrical/electronic engineers, computer engineers, electro-mechanical engineers, and related professionals. **According to the Bureau of Labor Statistics, projected job growth for drafters is 7 percent through 2026 and employment of electro-mechanical technicians is projected to grow 4 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Electro-Mechanical Technician	\$60,260
Industrial Designer	\$74,898
Mechanical Design Engineer	\$90,581
Electromechanical Engineer	\$94,721

Related Careers

Architectural Drafter
 Mechanical Engineering Technician
 Electronics Engineering Technician
 Industrial Designer

Education preferred by employers:

Associate's degree in Electronic or Mechanical Technology

For advancement:

Bachelor's degree in either Electrical Engineering, Mechanical Engineering, and Electromechanical Engineering

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Electrical and Electronic Drafters	5,900	6,600	11.9	150
Electrical and Electronics Engineering Technicians	22,900	24,400	6.6	710
Electro-Mechanical Technicians	1,900	2,000	5.3	50

Sources

<https://www.bls.gov/ooh/architecture-and-engineering/electro-mechanical-technicians.htm#tab-7>

<https://www.bls.gov/ooh/architecture-and-engineering/drafters.htm#tab-8>

<https://www.onetonline.org/link/details/17-3012.02>

https://www.glassdoor.com/Salaries/san-francisco-industrial-designer-salary-SRCH_IL0.13_IM759_KO14.33.htm

https://www.glassdoor.com/Salaries/san-francisco-mechanical-engineering-design-drafter-salary-SRCH_IL0.13_IM759_KO14.51.htm

<https://www.ziprecruiter.com/s/electromechanical-engineer-salary>

<http://www.projectionscentral.com/Projections/LongTerm>

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0953.40 – Mechanical Drafting

Students in a mechanical drafting program develop work drawings and electronic simulations in support of mechanical and industrial engineers and related professionals. **According to the Bureau of Labor Statistics, projected job growth for mechanical drafters is at 7 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Architectural CAD Drafter	\$54,860
Mechanical Drafter	\$64,632
Landscape Architect	\$67,018
CAD Designer	\$70,775
Industrial Designer	\$74,898

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Architectural and Civil Drafters	13,900	14,100	1.4	180
Commercial and Industrial Designers	5,300	5,600	5.7	160
Mechanical Engineering Technicians	4,500	4,700	4.4	140

Sources

- <https://www.bls.gov/oes/current/oes173013.htm>
- <https://www.onetonline.org/link/summary/17-3013.00>
- <https://www.raise.me/careers/architecture-and-engineering/drafters/mechanical-drafters>
- <https://www.indeed.com/q-CAD-Designer-I-San-Francisco-County,-CA-jobs.html>
- <https://www.comparably.com/salaries/salaries-for-project-manager-mechanical-drafter-in-san-francisco-ca>
- https://www.glassdoor.com/Salaries/san-francisco-industrial-designer-salary-SRCH_IL0,13_IM759_KO14,33.htm
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

CAD Designer
 Architectural Drafter
 Mechanical Engineering Technician
 Landscape Architect

Education preferred by employers:

On- the-job training or apprenticeship program

Associate's degree in Mechanical Drafting CAD/CADD or CAD/CADD Drafting and Design Technology or drafting programs at technical schools

Certifications obtained through the American Design Drafting Association.

For advancement:

Bachelor's degree in Architecture or Engineering

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0956.30 – Machining and Machine Tools

Students in a machining and machine tools program learn fabrication, assembly and repair of parts and components or systems on machines, such as lathes, grinders, drill presses, milling machines, and shaping machines. This program also includes Computer Numerical Control and tool design. **According to the Bureau of Labor Statistics, employment of machinists and tool and die makers is projected to grow 6 percent through 2024 while job growth for CNC machine tool programmers for metals and plastics is expected at 19% through 2024.**



Average Salaries in the San Francisco Bay Area for these related occupations:

CNC Setup Machinist	\$56,185
Industrial Machinery Mechanic	\$57,880
Computer Numerically Controlled (CNC) Programmers	\$66,631
Tool and Die Makers	\$70,110
Manufacturing Engineer	\$89,631

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
CNC Machine Tool Programmers	2,500	3,300	32.0	150
Machinists	33,800	40,200	18.9	1,620
Industrial Machinery Mechanics	24,400	30,600	25.4	1,250

Sources

- https://study.com/articles/CNC_Programmer_Career_Information_for_Becoming_a_CNC_Programmer.html
- <https://bigfuture.collegeboard.org/careers/production-machinists>
- https://www.glassdoor.com/Salaries/san-francisco-cnc-setup-machinist-salary-SRCH_IL.0,13_IM759_KO14,33.htm
- https://www.glassdoor.com/Salaries/san-francisco-cnc-programmer-salary-SRCH_IL.0,13_IM759_KO14,28.htm
- <https://www.bls.gov/oes/current/oes499041.htm>
- <https://www.bls.gov/oes/current/oes514111.htm>
- https://www.glassdoor.com/Salaries/san-francisco-manufacturing-engineer-salary-SRCH_IL.0,13_IM759_KO14,36.htm
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Sheet Metal Worker
- Industrial Machinery Mechanic
- Tool and Die Maker
- CNC Programmers & Operator
- Engineering Technician
- Manufacturing Engineer

Education preferred by employers:

High school diploma or equivalent

Long-term on-the-job training or four-year union apprenticeship program

Associate's degree in Machine Tool Technology and continued training after earning Associate's degree

Pass exam to obtain the Fabricators & Manufacturer's Association's Precision Sheet Metal Operator certification

For advancement:

Bachelor's degree in Industrial, Manufacturing, Mechanical, or Electrical Engineering

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0956.00 – Manufacturing and Industrial Technology

Students in a manufacturing and industrial technology program learn engineering principles and technical skills for the manufacture of products and related industrial processes, including shaping and forming operations, materials handling, instrumentation, controls, and quality control. The program also includes Computer-Aided Manufacturing and robotics, optimization theory, industrial and manufacturing planning, and related management skills. **According to the Bureau of Labor Statistics, projected job growth for industrial engineering technicians is a mere 1 percent through 2026 while job growth for industrial engineers is 10 percent through 2026.**



Related Careers

- Robotics Technician
- Sales Representative
- Technical Writer
- Industrial-Organizational Psychologist

Education preferred by employers:

Associate's degree in Manufacturing and Industrial Technology

For Advancement:

Bachelor's degree in Business Administration, Industrial Engineering, Industrial Psychology, Operations Research or Industrial Arts

Average Salaries in the San Francisco Bay Area for these related occupations:

Cost Estimators	\$65,272
Industrial Designer	\$74,898
Industrial Engineering Technician	\$81,556
Manufacturing Engineer	\$89,631
Industrial Production Managers	\$112,927

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Industrial Engineering Technicians	4,100	4,400	7.3	130
Industrial Production Managers	19,600	20,400	4.1	640

Sources

<https://www.collegexpress.com/interests/science-and-engineering/articles/careers-science-engineering/career-spotlight-manufacturing-and-industrial-technology/>

<https://www.bls.gov/ooh/architecture-and-engineering/industrial-engineers.htm>

https://www.glassdoor.com/Salaries/san-francisco-cost-estimator-salary-SRCH_IL0.13_IM759_KO14.28.htm

https://www.glassdoor.com/Salaries/san-francisco-industrial-designer-salary-SRCH_IL0.13_IM759_KO14.33.htm

https://www.glassdoor.com/Salaries/san-francisco-industrial-engineering-technician-salary-SRCH_IL0.13_IM759_KO14.47.htm

https://www.glassdoor.com/Salaries/san-francisco-manufacturer-engineer-salary-SRCH_IL0.13_IM759_KO14.35.htm

<https://www.comparably.com/salaries/salaries-for-industrial-production-managers-in-san-francisco-ca>

<http://www.projectionscentral.com/Projections/LongTerm>

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0956.40 – Sheet Metal and Structural Metal

Students in a sheet metal and structural metal program learn theories, principles, methods, technical skills, and equipment used in sheet metal and ironworking occupations. **According to the Bureau of Labor Statistics, projected job growth for sheet metal workers is 9 percent through 2026 and for ironworkers the job growth is 13 percent.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Structural Ironworker	\$52,675
Sheet Metal Duct Installer	\$53,635
HVAC Mechanic	\$54,287
Sheet Metal Fabricator	\$60,000
HVAC Service Technician	\$69,500

Related Careers

HVACR Technician
 Welder
 Pipe Fitter and Steamfitter
 Carpenter
 Construction Manager

Education preferred by employers:

High school diploma or equivalent
 Associate's degree in Sheet Metal and Structural Metal or programs at technical schools

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Sheet Metal Workers	13,000	16,000	23.1	590
Structural Iron and Steel Workers	5,800	7,400	27.6	250
Structural Metal Fabricators & Fitters	6,700	7,600	13.4	210

Sources

<https://www.bls.gov/ooh/construction-and-extraction/structural-iron-and-steel-workers.htm>
<https://www1.salary.com/CA/Structural-Ironworker-Salary.html>
<https://www.comparably.com/salaries/salaries-for-sheet-metal-duct-installer-in-fremont-ca>
<https://www1.salary.com/CA/San-Francisco/HVAC-Mechanic-I-salary.html>
<https://www.careerbuilder.com/salary-sheet-metal-fabricator-in-san-francisco,ca>
<https://www.careerbuilder.com/salary-hvac-service-technician-in-san-francisco,ca?education=master>
<http://www.projectionscentral.com/Projections/LongTerm>

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0956.50 – Welding Technology

Students in a welding program learn welding techniques, processes, and equipment applied in accordance with diagrams, blueprints, or other specifications. The welding techniques learned include oxyacetylene welding, brazing, cutting, and soldering. Instruction is also given on sheet metal layout and construction. **According to the Bureau of Labor Statistics, projected job growth for welders, cutters, solderers, and brazers is projected at 6 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Machinist	\$56,185
Industrial Machinery Mechanic	\$57,880
Welder	\$61,554
Millwright	\$64,712
Solderer and Brazer	\$67,262

Related Careers

- Assembler and Fabricator
- Pipe Fitter and Steamfitter
- Sheet Metal Worker
- Jeweler and Precious Stone and Metal Worker

Education preferred by employers:

- High school diploma or equivalent
- Extensive on- the-job training
- Associate degree in Welding Technology or welding programs at technical schools

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Welders, Cutters, Solderers, and Brazers	28,400	31,400	10.6	1,110
Assemblers and Fabricators	21,500	24,100	12.1	720
Machinist	33,800	40,200	18.9	1,620

Sources

<https://www.bls.gov/ooh/production/welders-cutters-solderers-and-brazers.htm>
<https://www.bls.gov/oes/current/oes499041.htm>
<https://www.paysa.com/salaries/welder--san-francisco,-ca--tl>
https://www.glassdoor.com/Salaries/san-francisco-tool-die-maker-salary-SRCH_IL0,13_IM759_KO14,28.htm
https://www.glassdoor.com/Salaries/san-francisco-millwright-salary-SRCH_IL0,13_IM759_KO14,24.htm
<http://www.labormarketinfo.edd.ca.gov/OccGuides/Detail.aspx?Soccode=514121&geography=0604000081>
<http://www.projectionscentral.com/Projections/LongTerm>

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0956.70 – Industrial and Occupational Safety and Health

Students in an industrial and occupational safety and health program learn safety engineering principles and practices as well as related federal, state, and local regulations concerned with workplace safety. **According to the Bureau of Labor Statistics, employment of occupational health and safety technicians and specialists is projected to grow 8 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Occupational Health and Safety Technician	\$53,926
Occupational Health and Safety Specialist	\$83,360
Environmental, Safety and Health Specialist	\$86,311
Industrial Hygienist	\$101,912
Health and Safety Manager	\$129,869

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Occupational Health and Safety Technicians	1,100	1,300	18.2	50
Occupational Health and Safety Specialists	5,900	6,700	13.6	200
Environmental Scientists and Specialists, Including Health	15,800	19,800	25.3	880

Sources

<https://www.bls.gov/ooh/healthcare/occupational-health-and-safety-specialists-and-technicians.htm>
https://www.payscale.com/research/US/Job=Occupational_Health_or_Safety_Specialist_Technician/Salary
https://www.glassdoor.com/Salaries/san-francisco-environmental-health-and-safety-specialist-salary-SRCH_IL0.13_IM759_KO14.56.htm
<https://www1.salary.com/CA/San-Francisco/Industrial-Hygienist-Salary.html>
<https://www1.salary.com/CA/San-Francisco/Health-and-Safety-Manager-Salary.html>
<http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

Environmental Scientists & Specialists
 Environmental Science & Protection Technicians
 Health and Safety Engineers

Education preferred by employers:

Associate's degree in Industrial and Occupational Safety and Health

On-the-job training

For Advancement:

Bachelor's degree in Industrial and Occupational Safety and Health or Environmental Science

Pass exams administered by Occupational Safety and Health Administration to obtain various Certifications from Board of Certified Safety Professionals

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0957.00 – Civil and Construction Management Technology

Students in a civil and construction management technology program learn procedures and techniques related to civil and construction management, including estimating and bidding, scheduling and control, inspection, building systems, construction practices, quality control, labor and safety practices. Students also learn about public works management. **According to the Bureau of Labor Statistics, employment of construction managers is projected to grow 11 percent through 2026.**



Average Salaries in the San Francisco Bay Area for these related occupations:

Construction Inspector	\$67,760
Civil Engineer	\$81,007
Project Manager, Architect	\$82,968
Electrician	\$87,224
Construction Manager	\$94,657

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Civil Engineers	41,000	46,000	12.2	1,710
Construction and Building Inspectors	10,700	12,000	12.1	440
Construction Managers	46,900	55,900	19.2	1,550

Sources

- <https://www.bls.gov/ooh/management/construction-managers.htm#tab-8>
- <https://www.recruiter.com/salaries/construction-and-building-inspectors-salary/?id=construction-and-building-inspectors&statewages=California>
- https://www.glassdoor.com/Salaries/san-francisco-civil-engineer-salary-SRCH_IL0,13_IM759_KO14,28.htm
- https://www.payscale.com/research/US/Job=Project_Manager%2C_Architecture/Salary/89b3c7f1/San-Francisco-CA
- https://www.glassdoor.com/Salaries/san-francisco-electronics-technician-salary-SRCH_IL0,13_IM759_KO14,36.htm
- https://www.glassdoor.com/Salaries/san-francisco-construction-manager-salary-SRCH_IL0,13_IM759_KO14,34.htm
- <http://www.projectionscentral.com/Projections/LongTerm>

Related Careers

- Architects
- Civil Engineers
- Cost Estimators
- Landscape Architects

Education preferred by employers:

Associate degree in Civil and Construction Management Technology

For advancement:

Bachelor's degree in Architecture, Building Science, Construction Management, or Civil Engineering

On-the-job construction experience and learning management techniques

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0958.00 – Water and Wastewater Technology

Students in a water and wastewater technology program learn principles, technical skills, and equipment used to process, purify, store and distribute potable water and dispose of waste water. Students also learn design, construction, operation, and maintenance of equipment for water or waste water treatment systems. **In California, jobs for Water and Liquid Water Treatment Plant Workers are expected to increase by 8.1 percent through 2024.**

Average Salaries in the San Francisco Bay Area for these related occupations:

Waste Water Treatment Technician	\$50,234
Chemist	\$61,328
Water and Wastewater treatment Plant & Systems Operator	\$82,780
Chemical Engineer	\$87,984

Projected Average Annual Job Openings in California through 2024

Title	Base	Projected	% Change	Average Annual Job Openings
Water and Wastewater Treatment Plant and Systems Operators	11,100	12,000	8.1	370
Chemists	12,400	14,200	14.5	460
Environmental Scientists and Specialists	15,800	19,800	25.3	880

Sources

- <https://bigfuture.collegeboard.org/careers/environment-water-wastewater-treatment-plant-operators>
- <http://www.labormarketinfo.edd.ca.gov/OccGuides/Detail.aspx?Soccode=518031&geography=0604000037>
- <https://www1.salary.com/CA/Waste-Water-Treatment-Technician-I-salary.html>
- <https://www.bls.gov/oes/current/oes472073.htm>
- <https://www.bls.gov/oes/current/oes518031.htm>
- https://www.glassdoor.com/Salaries/san-francisco-chemical-engineer-salary-SRCH_IL0,13_IM759_KO14,31.htm



Related Careers

Engineering Technicians
Environmental Scientists
Chemical Engineers
Industrial Production Managers

Education preferred by employers:

Certificate or Associate degree in Environmental Science or Water and Wastewater Technology

Long-term on-the-job training

Pass the Operator in Training Wastewater Treatment Plant Certification exam administered by the California State Water Board

For advancement:

Pass exams administered by the California State Water Board for intermediate and high level water treatment plant certifications

Bachelor's degree in Chemistry, Civil Engineering, Environmental Engineering, or Hydrology

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