




SAN DIEGO WORKFORCE PARTNERSHIP, INC.

Economic Forecast "STEM Jobs"

How Education Pays and Will Build Competitiveness

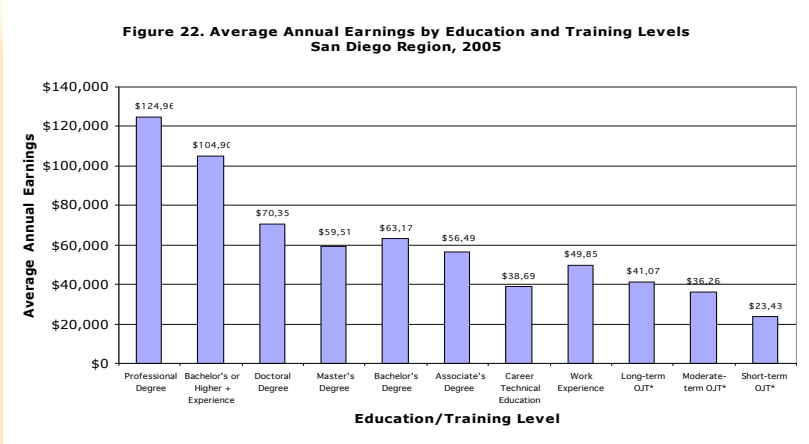
April 22, 2010




SAN DIEGO WORKFORCE PARTNERSHIP, INC.

Education Really Pays

**Figure 22. Average Annual Earnings by Education and Training Levels
San Diego Region, 2005**



Education/Training Level	Average Annual Earnings
Professional Degree	\$124,96
Bachelor's or Higher + Experience	\$104,96
Doctoral Degree	\$70,35
Master's Degree	\$59,51
Bachelor's Degree	\$63,17
Associate's Degree	\$56,49
Career Technical Education	\$38,69
Work Experience	\$49,85
Long-term OJT*	\$41,07
Moderate-term OJT*	\$36,26
Short-term OJT*	\$23,43





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STEM OCCUPATIONS (O*NET)

<p>Aerospace engineering and operations technicians (SOC 17 -3021) Aerospace engineers (SOC 17 -2011) Agricultural and food science technicians (SOC 19-4011) Agricultural engineers (SOC 17 -2021) Anthropologists and archeologists (SOC 19 -3091) Architects, except landscape and naval (SOC 17-1011) Architectural and civil drafters (SOC 17 -3011) Atmospheric and space scientists (SOC 19 -2021) Biochemists and biophysicists (SOC 19 -1021) Biological scientists, all other (SOC 19 -1029) Biological technicians (SOC 19 -4021) Biomedical engineers (SOC 17 -2031) Cartographers and photogrammetrists (SOC 17-1021) Chemical engineers (SOC 17 -2041) Chemical technicians (SOC 19 -4031) Chemists (SOC 19 -2031) Civil engineering technicians (SOC 17 -3022) Civil engineers (SOC 17 -2051) Computer and information scientists, research (SOC 15-1011) Computer hardware engineers (SOC 17 -2061) Computer specialists, all other (SOC 15 -1099) Conservation scientists (SOC 19 -1031) Drafters, all other (SOC 17 -3019) Economists (SOC 19 -3011) Electrical and electronic engineering technicians (SOC 17 -3023) Electrical and electronics drafters (SOC 17 -3012)</p>	<p>Electrical engineers (SOC 17 -2071) Electro-mechanical technicians (SOC 17 -3024) Electronics engineers, except computer (SOC 17-2072) Engineering managers (SOC 11 -9041) Engineering technicians, except drafters, all other (SOC 17 -3029) Engineers, all other (SOC 17 -2199) Environmental engineering technicians (SOC 17-3025) Environmental engineers (SOC 17 -2081) Environmental scientists and specialists, including health (SOC 19 -2041) Geographers (SOC 19 -3092) Health and safety engineers, except mining safety engineers and inspectors (SOC 17 -2111) Historians (SOC 19 -3093) Hydrologists (SOC 19 -2043) Industrial engineering technicians (SOC 17 -3026) Industrial engineers (SOC 17 -2112) Industrial production managers (SOC 11 -3051) Landscape architects (SOC 17 -1012) Life scientists, all other (SOC 19 -1099) Life, physical, and social science technicians, all other (SOC 19 -4099) Marine engineers and naval architects (SOC 17-2121) Materials engineers (SOC 17 -2131) Materials scientists (SOC 19 -2032) Mathematicians (SOC 15 -2021) Mechanical drafters (SOC 17 -3013) Mechanical engineering technicians (SOC 17 -3027)</p>	<p>Mechanical engineers (SOC 17 -2141) Microbiologists (SOC 19 -1022) Mining and geological engineers, including mining safety engineers (SOC 17 -2151) Natural sciences managers (SOC 11 -9121) Nuclear engineers (SOC 17 -2161) Nuclear technicians (SOC 19 -4051) Petroleum engineers (SOC 17 -2171) Physical scientists, all other (SOC 19 -2099) Physicists (SOC 19 -2012) Political scientists (SOC 19 -3094) Postsecondary teachers (SOC 25 -1099) Social science research assistants (SOC 19 -4061) Statistical assistants (SOC 43 -9111) Statisticians (SOC 15 -2041) Survey researchers (SOC 19 -3022) Surveying and mapping technicians (SOC 17 -3031) Surveyors (SOC 17 -1022) Technical writers (SOC 27 -3042)</p>
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Overall Job Statistics

- 2009 – 87,239 Jobs
- 2019 – 101,062 Jobs
- An increase of 13,823 or approx. 16% growth
- Statewide projection of growth is 13% and national is 12%
- Average (median) hourly earnings: \$37.69 or \$78,395 per year.



TOP 20 STEM OCCUPATIONS

Description	2009 Jobs	2019 Jobs	Change	% Change	New & Rep. Jobs	% New & Rep.	Current Median Hourly Earnings	Current Avg Hourly Earnings	Education Level
Postsecondary teachers	18,203	21,526	3,323	18%	6,493	36%	\$44.65	\$48.63	Doctoral degree
Computer specialists, all other	4,976	5,766	790	16%	1,862	37%	\$35.07	\$35.57	Associate's degree
Civil engineers	4,098	4,852	754	18%	1,446	35%	\$34.65	\$36.18	Bachelor's degree
Engineers, all other	4,065	4,544	479	12%	1,322	33%	\$42.03	\$42.81	Bachelor's degree
Biological technicians	2,025	2,562	537	27%	1,245	61%	\$22.23	\$23.10	Associate's degree
Biochemists and biophysicists	1,367	2,098	731	53%	1,173	86%	\$39.24	\$42.23	Doctoral degree
Engineering managers	3,832	4,168	336	9%	1,115	29%	\$59.58	\$62.19	Degree plus work exper
Electronics engineers, except computer	4,366	4,474	108	2%	1,111	25%	\$44.57	\$46.86	Bachelor's degree
Biomedical engineers	1,024	1,860	836	82%	1,047	102%	\$37.32	\$38.40	Bachelor's degree
Environmental scientists and specialists, including health	1,579	2,142	563	36%	1,012	64%	\$29.89	\$31.08	Master's degree
Mechanical engineers	2,843	3,055	212	7%	942	33%	\$37.08	\$38.61	Bachelor's degree
Industrial engineers	1,838	2,245	407	22%	876	48%	\$36.45	\$37.27	Bachelor's degree
Chemists	1,849	2,089	240	13%	852	46%	\$41.98	\$44.34	Bachelor's degree
Life, physical, and social science technicians, all other	1,190	1,449	259	22%	770	65%	\$19.87	\$23.29	Associate's degree
Natural sciences managers	1,343	1,695	352	26%	749	56%	\$67.36	\$71.16	Degree plus work exper
Computer and information scientists, research	1,522	1,869	347	23%	674	44%	\$34.85	\$36.76	Doctoral degree
Environmental engineers	1,035	1,400	365	35%	579	56%	\$40.38	\$41.84	Bachelor's degree
Architects, except landscape and naval	1,852	2,101	249	13%	561	30%	\$32.04	\$37.18	Bachelor's degree
Industrial production managers	1,508	1,463	(45)	(3%)	529	35%	\$40.50	\$46.75	Work experience in a re
Computer hardware engineers	1,697	1,723	26	2%	496	29%	\$38.68	\$37.71	Bachelor's degree
Total	62,212	73,981	10,869	15%	24,884	34%	\$38.00	\$41.10	

Source: EMSI Complete Employment - 1st Quarter 2010

Top 20 STEM Industries

Description	2009 Jobs	2019 Jobs	Change	% Change
Physical, engineering and biological research	11,001	15,079	4,078	37%
State government	11,340	13,312	1,972	17%
Local government	6,362	7,687	1,325	21%
Other technical consulting services	1,032	2,199	1,167	113%
Engineering services	9,851	10,778	927	9%
Federal government, civilian, except postal service	6,937	7,703	766	11%
Testing laboratories	3,184	3,899	715	22%
Custom computer programming services	1,809	2,461	652	36%
Search, detection, and navigation instruments	1,496	1,936	440	29%
Elementary and secondary schools	1,495	1,901	406	27%
Landscape architectural services	1,012	1,360	348	34%
In-vitro diagnostic substance manufacturing	876	1,207	331	38%
Broadcast and wireless communications equip.	1,154	1,415	261	23%
Computer systems design services	873	1,133	260	30%
Colleges, universities, and professional schools	1,630	1,742	112	7%
Other aircraft parts and equipment	1,115	1,167	52	5%
Cellular and other wireless carriers	799	849	50	6%
Managing offices	801	841	40	5%
Nuclear electric power generation	823	833	10	1%
Architectural services	2,135	2,081	(54)	(3%)
Ship building and repairing	870	800	(70)	(8%)
Semiconductors and related device mfg.	817	496	(321)	(39%)

Source: EMSI 1st Quarter, 2010



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Questions?

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