

FY 2010 CTE Program List Ranked by Formula

$$\text{Score} = (4 \times \text{Openings} + 2 \times \text{Wage} + 3 \times \text{ONET}) / 2.25$$

Rank	CIP Code	CIP Title	Score ¹	Open	Wage	O*NET ²	Openings	Hourly Wage	O*NET Score	Ed Code ³
E	15.0000	Engineering Sciences								
E	41.0100	Bioscience								
1	51.1600	Nursing Services	94.9	97	92	94	2685	24.59	658	6.4
2	52.0200	Business Management and Administration Services	88.1	90	91	83	1027	24.08	631	8
3	51.0900	Diagnostic and Intervention Technologies	85.1	85	79	90	671	21.3	639	7
4	43.0100	Law, Public Safety and Security	84.6	94	66	84	1721	19.62	633	9.6
5	46.0300	Electrical and Power Transmission Technologies	83.1	81	68	97	475	19.84	669	9.1
6	43.0200	Fire Science	80.4	74	63	100	291	18.94	752	9
7	51.0600	Dental Assisting	79.3	85	84	68	684	22.31	592	8.5
8	52.1500	Real Estate	77.1	78	97	63	379	26.8	577	7
9	47.0600	Transportation Technologies	76.0	86	56	76	702	18.23	607	7.7
10	49.0100	Air Transportation	75.5	59	99	82	86	32.48	627	7.6
11	52.1900	Design and Merchandising	74.2	88	85	49	755	22.36	548	9.1
12	47.0300	Heavy/Industrial Equipment Maintenance Technologies	72.2	76	59	76	334	18.38	608	9.4
13	01.0100	Agricultural Business Management - Agriscience	71.9	83	63	64	631	18.9	582	8.3
14	15.1300	Drafting and Design Technologies	70.3	60	81	77	102	21.68	608	7
15	15.1200	Information Technologies	69.9	69	88	60	177	23.11	571	6
16	47.0200	Heating, Ventilation and Air Conditioning	68.9	55	51	99	58	17.06	721	9
17	52.0900	Hospitality Management	67.6	73	58	67	261	18.36	591	8.7
18	22.0300	Legal Support Services	64.3	79	80	34	456	21.47	498	6.8
19	49.0200	Heavy Equipment Operations	63.3	97	30	40	3003	16.08	520	10.4
20	15.0300	Electronic Technologies	63.0	54	92	56	55	24.16	562	6
21	51.0700	Health and Medical Administrative Services	61.9	96	33	36	2284	16.3	507	9
22	46.0400	Construction Technologies	61.7	93	33	39	1484	16.33	516	9.8
23	51.0800	Allied Health Services	60.2	91	18	47	1040	13.98	542	9

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Rank	CIP Code	CIP Title	Score ¹	Open	Wage	O*NET ²	Openings	Hourly Wage	O*NET Score	Ed Code ³
24	51.1500	Mental and Social Health Services	59.8	75	22	65	294	14.68	584	10
25	47.0100	Electrical Systems Installation and Maintenance Technologies	57.6	81	60	24	495	18.58	473	8.4
26	52.0300	Accounting and Related Services	56.2	95	28	23	1802	15.57	464	10
27	52.1800	Marketing, Management and Entrepreneurship	56.0	99	11	29	9773	12.13	486	10.8
28	52.0400	Business Operations Support and Assistant Services	55.4	99	17	22	10732	13.81	464	10.5
29	52.0800	Financial Services	54.1	94	13	28	1604	12.88	484	11
30	12.0500	Culinary Arts	53.1	100	1	25	11408	9.29	478	10.7
31	13.1200	Education and Training: Education Professions	51.9	72	26	43	221	15.33	529	7.6
32	13.1210	Education and Training: Early Childhood Education	51.9	72	26	43	221	15.33	529	7.6
33	48.0508	Welding Technologies	51.9	83	25	28	661	15.28	482	9.4
34	48.0500	Precision Manufacturing	51.9	83	25	28	661	15.28	482	9.4
35	12.0400	Cosmetology	50.4	82	10	35	532	11.96	501	7
36	10.0200	Audiovisual Technologies	49.4	67	20	46	141	14.29	541	9.5
37	50.0100	Performing Arts and Entertainment Industry	43.6	41	57	38	26	18.29	516	9
38	51.3500	Therapeutic Massage	40.0	56	27	27	67	15.49	482	7
39	10.0300	Graphic Communications	37.3	65	10	18	130	12.1	425	10.2

¹ Score = (4 X Openings Percentile + 2 X Wage Percentile + 3 X ONET Percentile)/9

² ONET Percentile - occupations below **3.5%ile** were not included in calculations.

³ Ed Codes greater than or equal to 6 were used. Ed codes are the average of the occupations in each CIP. See notes page more details.

Purple=Emerging Program

Blue=Existing Program with Option Change

Green=Existing Program with Name change

Orange=Existing Program Name and Option change

Yellow=Existing Program with CIP Change

Gray=Existing Program CIP, Name and Option Change

Gold=Potential New Programs

Sources	
1	Openings and wage data are produced by the Arizona Department of Commerce, Research Administration, in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics. Wages are from the 2007 OES survey, released May 2008 and openings are from the 2006-2016 Occupational Projections.
2	O*NET database version 9.0: http://www.onetcenter.org/database.html
3	O*NET score is summation of allo*NET descriptors.
4	Education Levels: ftp://ftp.bls.gov/pub/special.requests/ep/optddata/optd.zip
5	Crosswalk between SOC and CIP: http://www.edcountability.net/quality/crosswalks.cfm
Calculation method	
1	Hourly wages were calculated by dividing annual wages by 2080.
2	All scores were first calculated by occupation using the SOC (Standard Occupational Code).
3	The field of occupations was restricted to those whose educational code was between 6 and 11 . The lowest educational code have the highest numbers (see below).
4	Scores by CIP (Classification of Instructional Programs) were calculated by taking an openings-weighted average of the occupations in the CIP. Within each CIP, there may be several 8-digit O*NET variations of the same 6-digit SOC occupation. In those cases, each SOC was counted only once. If a SOC occurred in more than one CIP, the openings for that SOC were evenly divided among the CIP code numbers.
5	Percentiles were calculated for each of the data items: openings, wages, and O*NET scores. In case of a tie, the same percentile was assigned to all CIP numbers involved in the tie.
6	The following formula determined the score for each CIP: $(4 \times \text{Openings Percentile} + 2 \times \text{Wage Percentile} + 3 \times \text{O*NET Percentile})/9$
BLS Education Codes	
1-4	The higher educational levels were not used for this project.
5	Bachelor Degree -- not used for this project.
6	Associate Degree
7	Post-secondary vocational training
8	Work experience in related occupation
9	Long-term on-the-job training
10	Moderate-term on-the-job training
11	Short-term on-the-job training
	for more details on the Education Codes, see: http://www.bls.gov/emp/optd/optd001.pdf
Questions and Comments	
	Direct questions or comments to Rick Van Sickle, rickv@azcommerce.com , John Graeflin, johnhg@azcommerce.com , or Cheri Levenson, cheril@azcommerce.com , at Research Administration, AZ Dept of Commerce

Explanations of Each Column		
C o l u m n		Explanation
A	Rank	This is the rank of the CIP (Classification of Instructional Programs) by score (column 4). Tie scores get tie ranks. Sometimes scores appear to be tie, but, if carried out to more decimal places, are not. Such CIPs are not assigned tie ranks.
B	CIP Code	This is the CIP (Classification of Instructional Programs) code of the training program. For more information see: http://nces.ed.gov/pubs2002/cip2000
C	CIP Title	The title of the training program. http://nces.ed.gov/pubs2002/cip2000
D	Score	The score is a weighted average of columns E through G. The weights used are: [(4 times OPEN) + (2 times WAGE) + (3 times O*NET)]/(sum of the weights or 9)]
E -G	Percentiles	These 3 columns convert the data in columns H through J to percentiles. Tie scores produce tie percentiles.
H	Openings	The number of openings expected per year for the occupations within this CIP. If an occupation is contained in more than one CIP, its openings are distributed evenly among those CIPs.
I	Hourly Wage	The average of the wages of the occupations contained in this CIP, weighted by the number of openings in each occupation.
J	O*NET Score	A measure of the skills and knowledge required for the occupations within this CIP, weighted by the number of openings in each occupation.
K	Educational Level	The various educational levels are described on lines 15-22 of the notes section. Higher numbers indicate lower amounts of education.