



Wage and Labor Market Information for CTE Programs Supplement to FY08 Academic Program Review

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Wage and Labor Data for CTE Programs at MCTC

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Wage and Labor Data for CTE Programs at MCTC

Introduction

This report contains the wage and labor market information on MCTC's CTE programs to supplement FY08 Academic Program Review. The objective is to provide wage and labor data on occupations related to each CTE program for planning purposes.

Data are organized alphabetically by SUBJ. Each CIP code (Classification of Instructional Programs) associated with a SUBJ credential is listed in this report (official CIP codes from MCTC's Program Inventory). For every CIP code, a nationally classified list of jobs related to that CIP code is presented. Of these related jobs, this report contains those requiring a Bachelor's Degree or lower educational attainment level, as determined by the federal government. Most of the jobs fall under only one SUBJ, however, some jobs fall into more than one. This is due to either 1) a CIP code being used by more than one program or 2) a job mapping to more than one CIP code in the national classification structure. The job of graphic designer, for example, is listed under GRPH, EPUB and ITEC programs. Further unique information about CIP codes and jobs is footnoted (see Appendix for footnotes).

Wage and Labor Market Information: 7 County Twin Cities Metro Data

The data presented, with the exception of the Minnesota Statewide High Wage/High Demand, is for the 7 County Twin Cities Metro region. This area includes the following counties; Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. The source of the data is Strategic Advantage, a software tool created by Economic Modeling Specialist Inc.(EMSI) to provide integrated regional economic and labor market data. See Data Sources for additional information.

High Wage/High Demand Jobs: State of Minnesota

The High Wage/High Demand data is not available for the 7 County Twin Cities Metro region. Therefore, this report includes the Minnesota Statewide data for High Wage/High Demand.

The source of the Minnesota Statewide High Wage/High Demand field is the Minnesota Department of Employment and Economic Development (DEED) Labor Market Information Tools. Data is based on projections from 2006-2016. Note this is a different data source and timeframe than the other data fields presented in the report. MnSCU and DEED are in the process of developing High Wage/ High Demand standards in order to comply with the reporting requirements of the Carl D. Perkins Career and Technical Act of 2006. Although the definitions have not been finalized, presently the following criteria is being utilized to determine which jobs in Minnesota are considered a high wage/high demand.

An occupation is considered high wage/high demand for the state of Minnesota if it meets all **three** of the following criteria:

- A 2008 median salary that is higher than the state average of \$17.25 per hour
- At least 2,961 jobs statewide in 2006. (Therefore, represents at least .1% of total 2006 state employment)
- Projected to have at least a 32% increase in the total number of projected statewide available jobs (both new and replacement) between 2006 and 2016.

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There are several limitations to the current high wage/high demand classification. First, it is important to note that the statewide high wage/high demand standards do not identify jobs that might be considered high wage or high demand within the 7 county metro region *specifically*. The MCTC Office of Strategy, Planning and Accountability is continuing to work with MnSCU and DEED to develop a set of criteria to identify the high wage and high demand jobs in the 7 county metro region. In addition, as a composite category, those jobs which are only high wage or only high demand, but not both, cannot be identified. We are working to access data which will allow us to disaggregate the combined high wage/high demand category into two separate categories.

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Report Fields

Field Title	Description
CIP Title	Description of the Classification Instructional Program (CIP)
CIP Code	Classification Instructional Program code which identifies a program. This is a national coding scheme maintained by the National Center for Educational Statistics (NCES) to facilitate the organization, collection and reporting of educational programs.
Job Description	National Standard Occupational Classification (SOC) title of the job or occupation
Projected 2009 and Projected 2016 Jobs	Total number of projected jobs for the reported occupation in the projection year. In addition to the existing jobs, these projections include available jobs (both new and replacement).
Percent Change	The proportion of increase or decrease in the total number of projected jobs between 2009 and 2016.
Avg Annual Openings	The projected number of available jobs (both new and replacement) each year between 2009 and 2016.
25 th Pct Wage	2007 25 th percentile hourly earnings (excluding benefits). The earnings at which 75% of those in the job classification are earning the same or more per hour.
Median Wage	2007 median hourly earnings (excluding benefits). The median wage is the point where an equal number of wages are above and below. This is also called the 50 th percentile.
Education Level	<p>Nationally determined and best describes the most significant source of postsecondary education or training needed by most workers in a given occupation to become fully qualified in that occupation (Office of Occupational Statistics and Employment Projections, Bureau of Labor Statistics).</p> <p>This report includes the following education levels: Bachelor's degree (Bachelor), Associate's degree (Associate), Postsecondary vocational award (Postsecondary Award), Work experience in a related field (Work Experience), Long-term on-the-job training (Long Training), Moderate-term on-the-job training (Moderate Training), and Short-term on-the-job training (Short Training).</p> <p>Note: Bachelor's degree education level is included because several of program CIP codes map to only B.A. or higher occupations.</p>
MN Statewide High Wage/High Demand	<p>Statewide data from the Minnesota Department of Employment and Economic Development (DEED) Employment Projections. Data based on projections from 2006-2016.</p> <p>An occupation is considered high wage/high demand for the state of Minnesota if it meets all three of the following criteria:</p> <ul style="list-style-type: none"> • A 2008 median salary that is higher than the state average of \$17.25 per hour • At least 2,961 jobs statewide in 2006. (Therefore, represents at least .1% of total 2006 state employment) • Projected to have at least a 32% increase in the total number of projected statewide available jobs (both new and replacement) between 2006 and 2016. (Note: This calculation differs from the percent change field because it includes replacement jobs in addition to new jobs.)



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Program Data

ACCT (Accounting)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
520301 - Accounting	Bachelor	Accountants, auditors	18293	20199	10.4%	586	\$23.14	\$28.04	X
	Bachelor	Budget analysts	168	177	5.4%	5	\$23.67	\$28.91	
	Bachelor	Credit analysts	971	953	-1.9%	35	\$22.45	\$27.82	
	Bachelor	Financial examiners	596	617	3.5%	13	\$23.51	\$30.30	
	Bachelor	Tax examiners, collectors, revenue agents	790	787	-0.4%	19	\$19.92	\$26.40	
520302 - Accounting Technology/ Technician and Bookkeeping	Moderate Training	Billing/posting clerks, machine operators	5297	5337	0.8%	74	\$14.05	\$16.46	
	Moderate Training	Bookkeeping, accounting, auditing clerks	21075	22578	7.1%	542	\$14.82	\$17.36	
	Moderate Training	Brokerage clerks	2563	2675	4.4%	98	\$17.06	\$20.11	
	Short Training	Gaming cage workers	16	16	0.0%	0	\$14.45	\$17.79	
	Moderate Training	Payroll, timekeeping clerks	2289	2307	0.8%	61	\$16.26	\$18.59	
	Moderate Training	Statistical assistants	16	17	6.3%	1	\$20.95	\$26.78	
	Moderate Training	Tax preparers	406	368	-9.4%	5	\$11.07	\$12.77	

AMTA / AMTG / AMTP (Aircraft Technician)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
470607 - Airframe Mechanics and Aircraft Maintenance Technology/ Technician	Postsecondary Award	Aircraft mechanics, service technicians	182	164	-9.9%	-1	\$23.80	\$27.37	
	Long Training	Aircraft structure, systems assemblers	90	88	-2.2%	2	\$17.52	\$22.54	
470608 - Aircraft Powerplant Technology/ Technician	Postsecondary Award	Avionics technicians	50	48	-4.0%	0	\$20.92	\$24.56	

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APRL (Apparel Technologies)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
190902 - Apparel and Textile Manufacture	Moderate Training	Extruding/forming machine setters, operators - synthetic and glass fibers	157	151	-3.8%	6	\$11.94	\$13.95	
	Long Training	Fabric/apparel patternmakers	82	75	-8.5%	4	\$15.48	\$19.91	
	Associate	Fashion designers	96	104	8.3%	4	\$19.45	\$25.00	
	Short Training	Sewers, hand	88	81	-8.0%	2	\$12.53	\$16.13	
	Moderate Training	Sewing machine operators	770	741	-3.8%	27	\$10.68	\$12.84	
	Long Training	Tailors, dressmakers, custom sewers	518	532	2.7%	11	\$13.71	\$17.42	
	Moderate Training	Textile bleaching/ dyeing machine operators	83	68	-18.1%	2	\$12.72	\$16.37	
	Short Training	Textile, apparel, furnishings, all other	69	58	-15.9%	1	\$9.86	\$11.59	

ARCH (Architectural Technology)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
151303 - Architectural Drafting and Architectural CAD/CADD	Postsecondary Award	Architectural and civil drafters	1566	1596	1.9%	49	\$19.55	\$23.74	

ATCT (Air Traffic Control)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
490105 - Air Traffic Controller	Long Training	Air traffic controllers	660	693	5.0%	22	\$52.70	\$65.62	



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BARB (Barbering)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
120402 - Barbering/ Barber	Postsecondary Award	Barbers	300	259	-13.7%	0	\$10.78	\$13.07	

BIOT (Biotechnology)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
261201 - Biotechnology	Bachelor	Biological scientists, all other	533	558	4.7%	14	\$23.13	\$33.75	

BTEC (Business Office Administration)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
220301 - Legal Administrative Assistant/Secretary	Postsecondary Award	Legal secretaries	3394	3537	4.2%	75	\$19.67	\$23.45	
510710 - Medical Office Assistant/ Specialist	Moderate Training	Medical assistants	4114	4948	20.3%	167	\$13.56	\$15.64	
	Postsecondary Award	Medical secretaries	4181	4589	9.8%	123	\$14.28	\$16.30	
520401 - Administrative Assistant and Secretarial Science, General	Moderate Training	Executive, administrative assistants	23254	25183	8.3%	639	\$17.45	\$20.46	
	Moderate Training	Secretaries, except legal, medical, executive	6284	6246	-0.6%	95	\$14.45	\$17.33	
520407 - Business/ Office Automation/ Technology/ Data Entry	Moderate Training	Data entry keyers	4269	4010	-6.1%	92	\$11.82	\$13.58	
520411 - Customer Service Support/ Call Center/ Teleservice Operation	Moderate Training	Customer service representatives	28589	32518	13.7%	1336	\$13.79	\$16.58	
	Short Training	Telephone operators	199	116	-41.7%	0	\$8.07	\$13.60	

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BUSN (Business Management)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
520201 - Business Administration and Management, General	Bachelor	Construction managers	1792	1962	9.5%	53	\$35.54	\$44.34	
	Work Experience	Cost estimators	2859	3112	8.8%	95	\$22.61	\$28.41	X
	Work Experience	First-line supervisors/managers of housekeeping/janitor	2558	2768	8.2%	68	\$14.27	\$17.44	
	Work Experience	First-line supervisors/managers of personal service workers	2734	3107	13.6%	110	\$14.07	\$16.99	
	Work Experience	Gaming supervisors	75	85	13.3%	3	\$15.95	\$20.42	
	Work Experience	Industrial production managers	2682	2641	-1.5%	105	\$34.91	\$44.29	X
	Work Experience	Managers, all other	9812	10459	6.6%	284	\$36.84	\$47.05	
	Bachelor	Social /community service managers	1385	1671	20.6%	66	\$24.80	\$30.22	
520803 - Banking and Financial Support Services	Work Experience	Transportation, storage, distribution managers	1305	1352	3.6%	46	\$31.05	\$39.99	
	Short Training	Bill and account collectors	6038	6659	10.3%	180	\$12.60	\$14.94	
	Short Training	Credit authorizers, checkers, and clerks	606	548	-9.6%	17	\$15.74	\$18.50	
	Bachelor	Loan counselors	153	151	-1.3%	1	\$16.08	\$18.63	
	Short Training	Loan interviewers and clerks	4101	3892	-5.1%	46	\$14.20	\$16.89	
	Work Experience	New accounts clerks	1409	1263	-10.4%	43	\$12.40	\$15.23	
	Short Training	Tellers	4814	5341	10.9%	272	\$10.48	\$11.67	

CARP (Carpentry)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
460201 - Carpentry/ Carpenter	Long Training	Carpenters	10480	11027	5.2%	223	\$17.87	\$22.77	
	Work Experience	First-line supervisors/managers of construction trades, extraction workers	5893	6146	4.3%	121	\$26.88	\$32.52	
	Short Training	Helpers, carpenters	633	663	4.7%	21	\$11.41	\$13.75	



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CBMK (Cabinetmaking)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
480703 - Cabinetmaking and Millwork/ Millwright	Long Training	Cabinetmakers, bench carpenters	1413	1460	3.3%	51	\$15.97	\$18.64	
	Long Training	Model makers, wood	73	52	-28.8%	2	\$14.86	\$19.12	
	Long Training	Patternmakers, wood	69	50	-27.5%	2	\$16.64	\$21.41	
	Moderate Training	Sawing machine setters, operators- wood	278	307	10.4%	10	\$13.31	\$16.39	
	Moderate Training	Woodworking machine setters, operators- except sawing	1009	1117	10.7%	41	\$12.88	\$16.37	

CHDV (Child Development)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
190708 - Child Care and Support Services Management	Postsecondary Award	Preschool teachers- except special education	4700	5266	12.0%	158	\$11.60	\$13.74	
190709 - Child Care Provider/ Assistant	Short Training	Child care workers	4108	4646	13.1%	192	\$8.25	\$9.43	

CMHW (Community Health Worker)¹

511504 - Community Health Services/ Liaison/ Counseling

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CNEL (Construction Electricity)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
460302 - Electrician	Postsecondary Award	Electrical /electronics repairers, powerhouse, substation, relay	93	83	-10.8%	2	\$27.71	\$31.83	
	Long Training	Electricians ⁵	6028	6103	1.2%	178	\$24.41	\$31.69	
	Work Experience	First-line supervisors/managers of construction trades /extraction workers	5893	6146	4.3%	121	\$26.88	\$32.52	
	Short Training	Helpers, electricians	163	162	-0.6%	4	\$10.40	\$13.12	
	Postsecondary Award	Security, fire alarm systems installers	951	1143	20.2%	39	\$16.56	\$21.20	
	Moderate Training	Signal, track switch repairers	151	145	-4.0%	1	\$18.29	\$23.50	

COUN (Addiction Counseling)⁷

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
5115 - Mental and Social Health Services and Allied Professions	Moderate Training	Social, Human Service Assistants	9624	12148	26.2%	464	\$11.50	\$13.25	

CSIP (Central Services Technician)³

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
510899 - Allied Health and Medical Assisting Services, Other	Short Training	Medical equipment preparers	853	983	15.2%	29	\$14.35	\$16.74	

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CULA (Culinary Arts)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
120501 - Baking and Pastry Arts/ Baker/ Pastry Chef	Long Training	Bakers	1293	1353	4.6%	36	\$9.81	\$12.47	
120503 - Culinary Arts/ Chef Training	Work Experience	Chefs, head cooks	819	844	3.1%	14	\$16.25	\$19.21	
	Long Training	Cooks, restaurant	11579	12309	6.3%	414	\$9.87	\$11.24	
120505 - Food Preparation/ Professional Cooking/ Kitchen Assistant	Short Training	Combined food preparation/serving-including fast food	33926	38005	12.0%	1197	\$7.51	\$8.49	
	Short Training	Cooks, fast food	3690	3905	5.8%	128	\$7.53	\$8.52	
	Moderate Training	Cooks, institution/cafeteria	3604	3821	6.0%	125	\$11.43	\$13.35	
	Short Training	Cooks, short order	1641	1665	1.5%	48	\$8.91	\$10.64	
	Short Training	Dishwashers	5348	5626	5.2%	255	\$7.79	\$8.91	
	Short Training	Food preparation workers	6349	6931	9.2%	297	\$8.47	\$10.14	

DNTA (Dental Assistant)³

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
510601 - Dental Assisting/Assistant 510699 - Dental Services and Allied Professions, Other	Moderate Training	Dental assistants	3354	3856	15.0%	128	\$16.97	\$19.56	X

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EDUC (Education)⁸ / URTE (Urban Teacher Program)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
130101 - Education, General	Bachelor	Elementary school teachers	15433	16256	5.3%	443	\$24.95	\$31.69	X
	Bachelor	Kindergarten teachers	1661	1774	6.8%	43	\$23.79	\$30.08	
	Bachelor	Middle school teachers	7073	7353	4.0%	190	\$23.98	\$29.55	
	Postsecondary Award	Preschool teachers	4700	5266	12.0%	158	\$11.60	\$13.74	
	Bachelor	Secondary school teachers	9960	9989	0.3%	294	\$25.08	\$31.07	X

ENDT (Electroneurodiagnostic Technology)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
510903 - Electroneurodiagnostic/ Electroencephalographic Technology/ Technologist	Postsecondary Award	Healthcare technologists, technicians, all other	714	813	13.9%	20	\$17.03	\$23.36	

EPUB (Electronic Publishing and Web Design)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
100303 - Prepress/ Desktop Publishing and Digital Imaging Design	Postsecondary Award	Desktop publishers	569	580	1.9%	13	\$17.37	\$21.78	
	Postsecondary Award	Prepress technicians, workers	1225	1083	-11.6%	28	\$17.67	\$21.87	
110801 - Web Page, Digital/Multimedia and Information Resources Design ⁴	Bachelor	Computer programmers	4055	3799	-6.3%	67	\$25.49	\$32.01	
	Bachelor	Graphic designers	3867	4116	6.4%	139	\$16.90	\$21.05	X
	Bachelor	Multi-media artists and animators	540	656	21.5%	29	\$17.27	\$22.41	

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FILM (Filmmaking)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
500601 - Film/ Cinema Studies ¹	Moderate Training	Camera operators, television, video, motion picture	38	33	-13.2%	0	\$11.51	\$18.40	
500602 - Cinematography and Film/ Video Production	Bachelor	Film and video editors	209	173	-17.2%	-1	\$13.61	\$15.63	

GRPH (Graphic Design and Visual Communications)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
500401 - Design and Visual Communications, General	Bachelor	Commercial/ industrial designers	644	689	7.0%	24	\$31.55	\$44.77	
	Bachelor	Designers, all other	210	231	10.0%	9	\$20.64	\$27.40	
	Bachelor	Graphic designers	3867	4116	6.4%	139	\$16.90	\$21.05	X
	Bachelor	Set and exhibit designers	72	78	8.3%	3	\$17.34	\$21.22	

HERB (Western Clinical Herbalism)²

513304 - Homeopathic Medicine/ Homeopathy
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HLSC (Homeland Security)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
440401 - Public Administration	Work Experience	Emergency management specialists	65	69	6.2%	1	\$23.30	\$30.19	

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HSER (Human Services)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
440000 - Human Services, General	Bachelor	Social /community service managers	1385	1671	20.6%	66	\$24.80	\$30.22	

HVAC (Heating, Ventilation, Air Conditioning, and Refrigeration)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
470201 - Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/ Technician	Long Training	Heating, air conditioning, refrigeration mechanics/installers	1633	1721	5.4%	42	\$20.91	\$25.05	

INFS (Information Studies)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
250301 - Library Assistant/ Technician	Moderate Training	Audio-visual collections specialists	513	452	-11.9%	5	\$22.58	\$28.21	
	Short Training	Library assistants, clerical	845	877	3.8%	31	\$10.76	\$13.47	
	Postsecondary Award	Library technicians	960	1001	4.3%	51	\$14.91	\$17.50	

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ITEC (Information Technology)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
100304 - Animation, Interactive Technology, Video Graphics and Special Effects	Bachelor	Multi-media artists, animators	540	656	21.5%	29	\$17.27	\$22.41	
110201 - Computer Programming/Programmer, General	Bachelor	Computer programmers	4055	3799	-6.3%	67	\$25.49	\$32.01	
	Long Training	Numerical tool /process control programmers	326	303	-7.1%	4	\$21.14	\$24.81	
110202 - Computer Programming, Specific Applications	Bachelor	Computer programmers	4055	3799	-6.3%	67	\$25.49	\$32.01	
110801 - Web Page, Digital/Multimedia and Information Resources Design ⁴	Bachelor	Computer programmers	4055	3799	-6.3%	67	\$25.49	\$32.01	
	Bachelor	Graphic designers	3867	4116	6.4%	139	\$16.90	\$21.05	X
	Bachelor	Multi-media artists, animators	540	656	21.5%	29	\$17.27	\$22.41	
110802 - Data Modeling/Warehousing and Database Administration	Bachelor	Database administrators	2351	2727	16.0%	78	\$26.14	\$33.87	
110901 - Computer Systems Networking and Telecommunications	Bachelor	Network/computer systems administrators	8185	9438	15.3%	359	\$27.17	\$33.59	X
	Bachelor	Network systems/data communications analysts	4706	6262	33.1%	310	\$31.18	\$37.88	X
111003 - Computer and Information Systems Security	Bachelor	Database administrators	2351	2727	16.0%	78	\$26.14	\$33.87	
	Bachelor	Network /computer systems administrators	8185	9438	15.3%	359	\$27.17	\$33.59	X
	Bachelor	Network systems/data communications analysts	4706	6262	33.1%	310	\$31.18	\$37.88	X

Wage and Labor Data for CTE Programs at MCTC

JLRY (Jewelry)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
470408 - Watchmaking and Jewelmaking	Postsecondary Award	Jewelers, precious stone/metal workers	187	193	3.2%	4	\$13.84	\$17.61	
	Moderate Training	Timing device assemblers, adjusters, calibrators	94	96	2.1%	3	\$12.80	\$14.80	

LAWE (Law Enforcement)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
430107 - Criminal Justice/Police Science	Moderate Training	Bailiffs	65	68	4.6%	2	\$13.62	\$17.60	
	Long Training	Police and sheriff's patrol officers ⁶	4041	4223	4.5%	131	\$24.29	\$28.24	X

MPRO (Media Production)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
090702 - Digital Communication and Media/ Multimedia	Long Training	Audio/video equipment technicians	420	446	6.2%	17	\$16.02	\$18.75	
	Associate	Broadcast technicians	296	300	1.4%	11	\$13.75	\$17.81	
	Bachelor	Multi-media artists, animators	540	656	21.5%	29	\$17.27	\$22.41	

Wage and Labor Data for CTE Programs at MCTC

MTTC (Machine Tool Technology)

CIP Code and Title	Education Level	Job Description (includes machine tool setters, operators, tenders- metal and plastic)	7 County Twin Cities Metro Area					MN Statewide	
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
480501 - Machine Tool Technology/ Machinist	Moderate Training	Cutting, punching, press machine	3412	3068	-10.1%	91	\$13.05	\$16.12	
	Moderate Training	Drilling/boring machine	405	348	-14.1%	10	\$14.59	\$17.76	
	Moderate Training	Extruding /drawing machine	870	879	1.0%	32	\$12.95	\$17.10	
	Moderate Training	Forging machine	226	181	-19.9%	9	\$15.08	\$16.47	
	Moderate Training	Grinding, lapping, polishing, buffing machine	1308	1201	-8.2%	20	\$14.82	\$17.67	
	Moderate Training	Heat treating equipment	128	118	-7.8%	3	\$14.11	\$16.87	
	Moderate Training	Lathe and turning machine	634	548	-13.6%	16	\$15.71	\$18.43	
	Moderate Training	Lay-out workers - metal and plastic	57	46	-19.3%	1	\$15.25	\$19.86	
	Long Training	Machinists	5641	5522	-2.1%	91	\$15.74	\$20.06	
	Moderate Training	Metal workers, plastic workers, all other	358	302	-15.6%	8	\$11.80	\$14.74	
	Moderate Training	Milling, planing machine	174	149	-14.4%	2	\$15.43	\$18.44	
	Moderate Training	Multiple machine	623	645	3.5%	16	\$16.56	\$19.75	
	Moderate Training	Plating and coating machine	656	606	-7.6%	22	\$13.28	\$15.82	
	Moderate Training	Rolling machine	250	238	-4.8%	7	\$12.15	\$16.20	



Wage and Labor Data for CTE Programs at MCTC

NAHA (Nursing Assistant/Home Health Aide)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
511614 - Nurse/Nursing Assistant/Aide and Patient Care Assistant	Postsecondary Award	Nursing aides, orderlies, and attendants	13046	14298	9.6%	292	\$12.37	\$14.12	

NURS (Nursing)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
511601 - Nursing/Registered Nurse	Associate	Registered nurses	32116	38498	19.9%	1410	\$28.42	\$33.58	X
511613 - Licensed Practical/Vocational Nurse Training	Postsecondary Award	Licensed practical and licensed vocational nurses	8232	8731	6.1%	291	\$18.00	\$20.17	X

PHDI (Photography and Digital Imaging)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
500406 - Commercial Photography	Long Training	Photographers	1253	1273	1.6%	31	\$17.01	\$23.91	

PHLE (Phlebotomy)²

511009 - Phlebotomy/Phlebotomist

Wage and Labor Data for CTE Programs at MCTC

PSOM (Polysomnography Technology)³

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
510999 - Allied Health Diagnostic, Intervention, and Treatment Professions, Other	Postsecondary Award	Healthcare practitioners and technical workers, all other	1191	1348	13.2%	44	\$19.43	\$23.24	

SCRN (Screenwriting)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
500504 - Playwriting and Screenwriting	Bachelor	Writers and authors	1433	1498	4.5%	35	\$19.63	\$24.82	

SNDA (Sound Arts)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
100203 - Recording Arts Technology/ Technician	Long Training	Audio/video equipment technicians	420	446	6.2%	17	\$16.02	\$18.75	
	Postsecondary Award	Sound engineering technicians	124	121	-2.4%	4	\$20.38	\$23.07	

UPRY (Urban Park, Recreation and Youth Development)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
310101 - Parks, Recreation and Leisure Studies	Short Training	Recreation workers	2475	2666	7.7%	72	\$9.49	\$12.03	
	Long Training	Umpires, referees, other sports officials	245	272	11.0%	10	\$13.28	\$21.63	

Wage and Labor Data for CTE Programs at MCTC

VIDA (Video and Digital Arts)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
100201 - Photographic and Film/ Video Technology/ Technician and Assistant	Long Training	Audio and video equipment technicians	420	446	6.2%	17	\$16.02	\$18.75	
	Moderate Training	Photographic process workers	560	407	-27.3%	22	\$14.05	\$17.22	
	Short Training	Photographic processing machine operators	943	584	-38.1%	38	\$8.99	\$11.23	

WELD (Welding and Metal Fabrication)

CIP Code and Title	Education Level	Job Description	7 County Twin Cities Metro Area						MN Statewide
			Projected 2009 Jobs	Projected 2016 Jobs	Percent Change	Avg Annual Openings	2007 25th Pct Wage	2007 Median Wage	High Wage/ High Demand
480508 - Welding Technology/Welder	Long Training	Welders, cutters, solderers, brazers	3838	3845	0.2%	84	\$16.18	\$19.61	
	Moderate Training	Welding, soldering, brazing machine setters/operators	226	228	0.9%	5	\$17.40	\$20.08	



Wage and Labor Data for CTE Programs at MCTC

Data Sources

7 County Twin Cities Metro Report Fields

The source of the 7 County Twin Cities Metro Area report fields is Strategic Advantage™ - a software package that synthesizes national and state labor and economic databases, a product of Economic Modeling Specialist Inc. (EMSI). EMSI's occupation data is based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). The occupation-to-program (SOC-to-CIP) crosswalk is based on the U.S. Department of Education with customizations by EMSI. Data is from 2007 according to EMSI Covered Employment.

Minnesota Statewide Data: High Wage/High Demand

The source of the Minnesota Statewide High Wage/High Demand data is the Minnesota Department of Employment and Economic Development (DEED) Labor Market Information. Data includes projections for 2006-2016 with 2008 median salary data.

Further source information is available on request.

Appendix

Footnotes

Number	Text
1	No jobs within CIP code classified as requiring a Bachelor's Degree or lower educational attainment.
2	No jobs associated within CIP appropriate for MCTC's program focus (according to program dean).
3	Subject area classified with general CIP code. Specific CIP codes are needed to map to appropriate jobs.
4	CIP code 110801 used by more than one program (EPUB and ITEC).
5	Job requires Associate's Degree for apprenticeship and union membership (according to program dean).
6	Minnesota state licensing requires minimum of 2 year postsecondary degree (according to the program dean).
7	Using 6 digit CIP code 511501 for COUN, no jobs at Bachelor's Degree or lower educational attainment. Therefore, this report uses 4 digit CIP code to map to jobs. This or related CIP code may also be appropriate for HSER.
8	No jobs within EDUC CIP code 130299 classified as requiring a Bachelor's Degree or lower educational attainment. Therefore, this report contains only jobs mapped to CIP code 130101 for URTE. The CIP code for EDUC should be reviewed.