



PARTICIPATION IN TECHNICAL EDUCATION LEADING TO HIGH-DEMAND, HIGH-WAGE JOBS

January 2016

PARTICIPATION IN TECHNICAL EDUCATION COURSES

The 2015 Legislature directed the Kansas Board of Regents to develop a report on the participation in technical education courses that lead to high-demand, high-wage technical occupations and result in Kansas Board of Regents approved industry credentials. This report is submitted in response to the request contained in 2015 House Substitute for Senate Bill 112 (Section 142(a)).

2015 Budget Proviso Language

Attached to the appropriation for the Postsecondary Technical Education Authority was the following:

*“Provided, That, in addition to the other purposes for which expenditures may be made by the above agency from the postsecondary technical education authority account for fiscal year 2016, expenditures shall be made by the above agency from the postsecondary technical authority account for fiscal year 2016 to develop a report on the participation in technical education courses that lead to high-wage, high-demand technical occupations and result in Kansas board of regents approved industry credentials: *Provided further*, That such report shall be made available to the house of representatives committee on appropriations and the senate committee on ways and means no later than the first day of the 2016 regular session of the legislature.”*

Review of related data

For purposes of this report, the number of students with declared majors in technical programs was used to gauge the level of participation in technical education courses that lead to high-demand, high-wage technical occupations for which Kansas Board of Regents approved industry credentials have been identified. It is important to note that individual technical education courses are often used in multiple programs.

Utilizing information from the 2014 Kansas Training Information Program (K-TIP) report, the most recent year for which complete data is available, as well as data from the Kansas Department of Labor’s 2015 High Demand – High Wage Occupations list, a subset of data specific to only those postsecondary technical programs of study for which an approved industry credential has been identified and the educational level associated with the occupation is less than a baccalaureate degree is included in this report.¹

Postsecondary technical education programs are identified using a Classification of Instructional Program (CIP) code established by the National Center for Educational Statistics (NCES). The Department of Labor, on the other hand, uses a Standard Occupation Code (SOC) to identify and report occupations. A CIP to SOC crosswalk was used to match information from these two data sources and

¹ Only those occupations for which the training and educational level is specific to the two-year college sector were identified in this report. For example, Accountants and Auditors (SOC 13-2011) is on the High Demand – High Wage listing; however, the education level associated with that particular level of employment requires at least a Bachelor’s degree. While the two-year college sector offers certificates and degrees in Accounting, they are not considered an equivalent level of training referred to on the High Demand – High Wage Occupation list. These occupations were therefore not included despite a SOC/CIP match.

resulted in 16 instances where the individual program CIP code and occupational SOC code were direct matches; in three instances there were multiple program CIP codes matched a single occupational SOC code; and in one instance, one program CIP code matched multiple occupational SOC codes. All of these matches were included in the report.

Summary of Findings

There were a total of 9,691 students with declared majors in selected technical programs of study that corresponded directly to occupations identified on the Kansas Department of Labor's 2015 High Demand—High Wage Occupation list and for which KBOR approved industry credentials have been identified. Of these students, 49 percent (4,701) were enrolled in health programs; 16 percent (1,573) were enrolled in information technology/computer information programs; 11 percent (1,067) were enrolled in architecture/ construction programs; and 8 percent (804) were enrolled in programs related to public safety. The remaining students (1,546) were enrolled in transportation-related programs, such as aviation and railroad maintenance; agricultural/heavy equipment; industrial maintenance; and administrative assistant/secretarial science programs.

Attached is a detailed listing of the programs and occupations (listed in order of “rank” on the High Demand—High Wage Occupation List) and the approved industry credential. The report also includes comparisons of the average wage reported for those graduates who exited and were employed to the median annual wage reported for the high demand high wage occupations. The reader should note that the occupational wages represent the median of wages reported in the occupational survey, not the entry level wage.

Additional information regarding participation, completion, and employment for all approved technical programs (including those for which an approved industry credential is not available) can be found in the 2014 Kansas Training Information Program report available on the Board's website, kansasregents.org.

High Wage--High Demand (HWHD) Occupations
SOC/CIP crosswalk provides match to AY2014 programs offered

CIP Code	Program Name	Institution	Total # Declared Majors	Total # Graduates	Average Wage: Graduates Exiting & Employed	High Wage/High Demand SOC	SOC Title / Occupation and Credential	Median Annual Wage per HWHD
51.3801	Registered Nursing/Registered Nurse	Barton Community College	51	41	\$40,008	29-1141	Registered Nurses Credential: Registered Nurse	\$55,880
51.3801	Registered Nursing/Registered Nurse	Butler Community College	242	115	\$44,551			
51.3801	Registered Nursing/Registered Nurse	Cloud County Community College	50	34	\$44,908			
51.3801	Registered Nursing/Registered Nurse	Coffeyville Community College	31	13	\$42,159			
51.3801	Registered Nursing/Registered Nurse	Colby Community College	108	51	\$45,594			
51.3801	Registered Nursing/Registered Nurse	Dodge City Community College	85	38	\$41,770			
51.3801	Registered Nursing/Registered Nurse	Fort Scott Community College	106	37	\$45,323			
51.3801	Registered Nursing/Registered Nurse	Garden City Community College	28	13	*			
51.3801	Registered Nursing/Registered Nurse	Highland Community College	296	21	\$43,600			
51.3801	Registered Nursing/Registered Nurse	Hutchinson Community College	179	83	\$47,980			
51.3801	Registered Nursing/Registered Nurse	Johnson County Community College	136	68	\$43,609			
51.3801	Registered Nursing/Registered Nurse	Kansas City Kansas Community College	1,430	117	\$47,383			
51.3801	Registered Nursing/Registered Nurse	Labette Community College	345	29	\$41,222			
51.3801	Registered Nursing/Registered Nurse	Manhattan Area Technical College	81	56	\$42,978			
51.3801	Registered Nursing/Registered Nurse	Neosho County Community College	203	119	\$46,143			
51.3801	Registered Nursing/Registered Nurse	North Central Kansas Technical College	30	23	\$41,220			
51.3801	Registered Nursing/Registered Nurse	Pratt Community College	243	135	\$43,532			
51.3801	Registered Nursing/Registered Nurse	Seward County Community College/ATS	33	25	\$44,874			
47.0303	Industrial Mechanics and Maintenance Technology	Johnson County Community College	20	*	NR	49-9041	Industrial Machinery Mechanics Credential: Certified Maintenance & Reliability Technician	\$45,410
47.0303	Industrial Mechanics and Maintenance Technology	Washburn Institute of Technology	74	28	\$46,407			
47.0303	Industrial Mechanics and Maintenance Technology	Wichita Area Technical College	21	6	*			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Fort Scott Community College	28	13	*	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers Credential: HVAC Excellence, NATE, ICE, and NCCEER	\$44,200
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Highland Community College	15	8	\$26,569			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Johnson County Community College	142	13	\$43,824			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Kansas City Kansas Community College	77	23	\$34,180			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Manhattan Area Technical College	37	19	\$25,249			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	North Central Kansas Technical College	21	15	\$28,252			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Northwest Kansas Technical College	6	*	*			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Salina Area Technical College	16	7	\$33,156			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Seward County Community College/ATS	13	8	\$25,914			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Washburn Institute of Technology	44	11	\$32,544			
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	Wichita Area Technical College	48	12	\$33,456			

High Wage--High Demand (HWHD) Occupations
SOC/CIP crosswalk provides match to AY2014 programs offered (Continued)

CIP Code	Program Name	Institution	Total # Declared Majors	Total # Graduates	Average Wage: Graduates Exiting & Employed	High Wage/High Demand SOC	SOC Title / Occupation and Credential	Median Annual Wage per HWHD
43.0107	Criminal Justice/Police Science	Barton Community College	21	*	*	33-3051	Police and Sheriff's Patrol Officers Credential: Kansas Law Enforcement Peace Officer Training Certificate	\$42,180
43.0107	Criminal Justice/Police Science	Cloud County Community College	*	*	NR			
43.0107	Criminal Justice/Police Science	Colby Community College	49	*	*			
43.0107	Criminal Justice/Police Science	Cowley Community College	62	6	\$23,503			
43.0107	Criminal Justice/Police Science	Dodge City Community College	67	9	\$30,119			
43.0107	Criminal Justice/Police Science	Fort Scott Community College	125	*	*			
43.0107	Criminal Justice/Police Science	Garden City Community College	31	7	*			
43.0107	Criminal Justice/Police Science	Highland Community College	12	*	*			
43.0107	Criminal Justice/Police Science	Hutchinson Community College	42	*	*			
43.0107	Criminal Justice/Police Science	Kansas City Kansas Community College	374	11	\$42,698			
43.0107	Criminal Justice/Police Science	Wichita Area Technical College	21	*	NR			
46.0302	Electrician	Coffeyville Community College	46	8	\$47,348	47-2111	Electricians Credential: Certified General Electrician	\$48,500
46.0302	Electrician	Highland Community College	36	9	\$31,398			
46.0302	Electrician	Hutchinson Community College	*	*	NR			
46.0302	Electrician	Johnson County Community College	118	12	\$29,789			
46.0302	Electrician	Kansas City Kansas Community College	53	13	\$26,153			
46.0302	Electrician	North Central Kansas Technical College	41	31	\$34,984			
46.0302	Electrician	Northwest Kansas Technical College	20	16	\$49,494			
46.0302	Electrician	Salina Area Technical College	30	13	\$30,966			
46.0302	Electrician	Washburn Institute of Technology	19	12	\$27,692			
52.0401	Administrative Assistant and Secretarial Science, General	Barton Community College	32	5	*	43-6011	Executive Secretaries/Executive Administrative Assistants Credential: Office Proficiency Assessment & Certification (OPAC)	\$44,250
52.0401	Administrative Assistant and Secretarial Science, General	Butler Community College	28	*	*			
52.0401	Administrative Assistant and Secretarial Science, General	Coffeyville Community College	8	*	*			
52.0401	Administrative Assistant and Secretarial Science, General	Colby Community College	41	7	*			
52.0401	Administrative Assistant and Secretarial Science, General	Cowley Community College	31	8	*			
52.0401	Administrative Assistant and Secretarial Science, General	Dodge City Community College	10	*	NR			
52.0401	Administrative Assistant and Secretarial Science, General	Flint Hills Technical College	82	34	\$21,357			
52.0401	Administrative Assistant and Secretarial Science, General	Fort Scott Community College	18	5	*			
52.0401	Administrative Assistant and Secretarial Science, General	Highland Community College	18	6	*			
52.0401	Administrative Assistant and Secretarial Science, General	Hutchinson Community College	35	6	\$18,079			
52.0401	Administrative Assistant and Secretarial Science, General	Independence Community College	*	*	NR			
52.0401	Administrative Assistant and Secretarial Science, General	Johnson County Community College	57	9	*			
52.0401	Administrative Assistant and Secretarial Science, General	Kansas City Kansas Community College	62	*	*			
52.0401	Administrative Assistant and Secretarial Science, General	Labette Community College	15	*	*			
52.0401	Administrative Assistant and Secretarial Science, General	Manhattan Area Technical College	141	23	\$20,228			
52.0401	Administrative Assistant and Secretarial Science, General	Neosho County Community College	6	*	*			
52.0401	Administrative Assistant and Secretarial Science, General	Northwest Kansas Technical College	40	10	*			
52.0401	Administrative Assistant and Secretarial Science, General	Pratt Community College	10	*	*			
52.0401	Administrative Assistant and Secretarial Science, General	Salina Area Technical College	20	10	\$20,634			
52.0401	Administrative Assistant and Secretarial Science, General	Seward County Community College/ATS	13	*	NR			
52.0401	Administrative Assistant and Secretarial Science, General	Washburn Institute of Technology	35	19	\$19,543			

High Wage--High Demand (HWHD) Occupations
SOC/CIP crosswalk provides match to AY2014 programs offered (Continued)

CIP Code	Program Name	Institution	Total # Declared Majors	Total # Graduates	Average Wage: Graduates Exiting & Employed	High Wage/High Demand SOC	SOC Title / Occupation and Credential	Median Annual Wage per HWHD
51.0602	Dental Hygiene/Hygienist	Colby Community College	26	11	\$37,236	29-2021	Dental Hygienists Credential: Registered Dental Hygienist	\$69,790
51.0602	Dental Hygiene/Hygienist	Flint Hills Technical College	14	12	\$52,499			
51.0602	Dental Hygiene/Hygienist	Johnson County Community College	50	20	\$40,307			
51.0602	Dental Hygiene/Hygienist	Manhattan Area Technical College	27	12	\$46,144			
51.0806	Physical Therapy Technician/Assistant	Colby Community College	52	21	\$41,728	31-2021	Physical Therapist Assistants Credential: Certified Physical Therapy Assistant	\$54,950
51.0806	Physical Therapy Technician/Assistant	Hutchinson Community College	51	20	\$49,179			
51.0806	Physical Therapy Technician/Assistant	Kansas City Kansas Community College	206	37	\$34,105			
51.0806	Physical Therapy Technician/Assistant	Labette Community College	112	*	NR			
11.1004	Web/Multimedia Management and Webmaster	Butler Community College	40	8	*	15-1134	Web Developers Credential: Adobe Certified Associate - Web Communication	\$52,710
11.1004	Web/Multimedia Management and Webmaster	Johnson County Community College	11	*	*			
51.0911	Radiologic Technology/Science - Radiographer	Hutchinson Community College	71	18	\$36,685	29-2034	Radiologic Technologists Credential: Registered Radiologic Technologist	\$48,110
51.0911	Radiologic Technology/Science - Radiographer	Labette Community College	87	14	\$32,032			
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	Labette Community College	13	6	*	29-2032	Diagnostic Medical Sonographers Credential: Registered Diagnostic Cardiac Sonographer	\$66,810
47.0103	Communications Systems Installation and Repair Technology	Northwest Kansas Technical College	6	*	*	49-2022	Telecommunications Equipment Installers/Repairers Credential: Broadband Premises Installer	\$45,880
51.0917	Polysomnography	Johnson County Community College	13	12	\$32,069	29-2099	Health Technologists and Technicians, All Other Credential: Registered Polysomnographic Technologist	\$43,730

High Wage--High Demand (HWHD) Occupations
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CIP Code	Program Name	Institution	Total # Declared Majors	Total # Graduates	Average Wage: Graduates Exiting & Employed	High Wage/High Demand SOC	SOC Title / Occupation and Credential	Median Annual Wage per HWHD
51.0803	Occupational Therapist Assistant	Neosho County Community College	45	14	\$29,839	31-2011	Occupational Therapy Assistant Credential: Certified Occupational Therapist Assistant	\$59,090
51.0908	Respiratory Care Therapy/Therapist	Hutchinson Community College	26	11	\$40,140	29-1126	Respiratory Therapists Credential: Licensed Respiratory Therapist	\$49,810
51.0908	Respiratory Care Therapy/Therapist	Johnson County Community College	18	17	\$40,158			
51.0908	Respiratory Care Therapy/Therapist	Kansas City Kansas Community College	114	17	\$36,509			
51.0908	Respiratory Care Therapy/Therapist	Labette Community College	31	7	\$27,001			
51.0908	Respiratory Care Therapy/Therapist	Northwest Kansas Technical College	38	11	\$37,093			
51.0908	Respiratory Care Therapy/Therapist	Seward County Community College/ATS	30	10	\$42,167			
49.0208	Railroad and Railway Transportation	Johnson County Community College	213	68	\$61,145	53-4021	Railroad Brake, Signal, and Switch Operators Credential: Certified Electronics Technician	\$47,310

High Wage--High Demand (HWHD) Occupations
SOC/CIP crosswalk provides match to AY2014 programs offered (Continued)

Multiple CIP's Match Single SOC

CIP Code	Program Name	Institution	Total # Declared Majors	Total # Graduates	Average Wage: Graduates Exiting & Employed	High Wage/High Demand SOC	SOC Title / Occupation and Credential	Median Annual Wage per HWHD
11.1003	Computer and Information Systems Security/Information Assurance	Butler Community College	62	5	*	15-1152	Computer Network Support Specialists Credential: CompTIA A +, Security +, or Network + Certification or Cisco Certified Network Associate	\$51,370
11.1003	Computer and Information Systems Security/Information Assurance	Cowley Community College	*	*	NR			
11.0201	Computer Programming/Programmer, General	Butler Community College	60	10	*			
11.0201	Computer Programming/Programmer, General	Dodge City Community College	20	*	*			
11.0201	Computer Programming/Programmer, General	Flint Hills Technical College	23	11	*			
11.0201	Computer Programming/Programmer, General	Johnson County Community College	358	16	\$45,751			
11.0201	Computer Programming/Programmer, General	Neosho County Community College	15	*	NR			
11.0501	Computer Systems Analysis/Analyst	Hutchinson Community College	51	13	\$27,657			
11.0901	Computer Systems Networking and Telecommunications	Allen Community College	64	6	*			
11.0901	Computer Systems Networking and Telecommunications	Barton Community College	55	11	*			
11.0901	Computer Systems Networking and Telecommunications	Coffeyville Community College	21	*	NR			
11.0901	Computer Systems Networking and Telecommunications	Flint Hills Technical College	53	7	*			
11.0901	Computer Systems Networking and Telecommunications	Highland Community College	23	7	*			
11.0901	Computer Systems Networking and Telecommunications	Hutchinson Community College	40	9	\$27,688			
11.0901	Computer Systems Networking and Telecommunications	Independence Community College	5	*	NR			
11.0901	Computer Systems Networking and Telecommunications	Johnson County Community College	287	31	\$28,291			
11.0901	Computer Systems Networking and Telecommunications	Kansas City Kansas Community College	81	9	\$22,192			
11.0901	Computer Systems Networking and Telecommunications	Labette Community College	16	*	*			
11.0901	Computer Systems Networking and Telecommunications	North Central Kansas Technical College	5	*	NR			
11.0901	Computer Systems Networking and Telecommunications	Washburn Institute of Technology	86	26	\$17,029			
11.1001	Network and System Administration/Administrator	Butler Community College	31	8	*	49-3011	Aircraft Mechanics and Service Technicians Credential: FAA Powerplant Licence or FAA Airframe License	\$56,770
11.1001	Network and System Administration/Administrator	Manhattan Area Technical College	103	16	\$33,160			
11.1002	System, Networking, and LAN/WAN Management/Manager	Butler Community College	63	11	\$24,619	49-3042	Mobile Heavy Equipment Mechanics, Except Engines Credential: John Deere Certification or Mobile Air Conditioning Society Certification	\$45,660**
47.0608	Aircraft Powerplant Technology/Technician	Wichita Area Technical College	87	58	\$50,537			
47.0607	Airframe Mechanics and Aircraft Maintenance Technology/Technician	Wichita Area Technical College	183	84	\$56,127			
01.0205	Agricultural Mechanics and Equipment/Machine Technology	Fort Scott Community College	40	10	NR			
01.0205	Agricultural Mechanics and Equipment/Machine Technology	Garden City Community College	46	11	\$40,942			
01.0205	Agricultural Mechanics and Equipment/Machine Technology	Hutchinson Community College	47	*	*			
01.0205	Agricultural Mechanics and Equipment/Machine Technology	North Central Kansas Technical College	31	11	\$31,364			
01.0205	Agricultural Mechanics and Equipment/Machine Technology	Pratt Community College	21	7	\$32,371			
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation	North Central Kansas Technical College	36	31	\$30,133	49-3042	Mobile Heavy Equipment Mechanics, Except Engines Credential: John Deere Certification or Mobile Air Conditioning Society Certification	\$45,660**
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation	Washburn Institute of Technology	19	18	\$26,141			

High Wage--High Demand (HWHD) Occupations
SOC/CIP crosswalk provides match to AY2014 programs offered (Continued)

Multiple SOC Codes Match Single CIP

CIP Code	Program Name	Institution	Total # Declared Majors	Total # Graduates	Average Wage: Graduates Exiting & Employed	High Wage/High Demand SOC	SOC Title / Occupation and Credential	Median Annual Wage per HWHD
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Barton Community College	*	*	NR	17-3011 & 17-3012 & 17-3013	Architectural and Civil Drafters & Electrical and Electronics Drafters & Mechanical Drafters Credential: Certified Solidworks Associate	\$44,470**, \$51,860, \$45,200
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Butler Community College	24	6	*			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Highland Community College	37	*	NR			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Johnson County Community College	70	7	*			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Kansas City Kansas Community College	38	*	*			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Manhattan Area Technical College	54	13	\$42,170			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Salina Area Technical College	14	5	\$31,688			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Washburn Institute of Technology	20	9	\$26,467			

Sources: Majors and Graduates from Kansas Board of Regents KHEDS AY Collection.

Average Wage of Graduates from Kansas Department of Labor UI Wage Records.

Median Annual Wage per HWHD from Kansas Department of Labor Occupational Employment Statistics Survey, 2015 Edition.

NR = No Record

*** Small cell suppression protects student privacy in accordance with FERPA and HEOA guidelines (fewer than 5 students).**

Undisclosable wage data means that the data did not pass the Bureau of Labor Statistics' confidentiality and/or reliability standards.

**** 2015 U.S. wage data is used rather than Kansas wage data, which is not available.**