

**Wyoming Department of Workforce Services
Integrated Workforce Plan
Program Years 2012 - 2016**

**Labor Market Information: Demographics, Projections,
Skills, and Education**

By Michael Moore

Associate Editor

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Key Observations

- Approximately one in five (21.6 percent) of Wyoming's American Indian population ages 18 and older has less than a high school diploma.
- Less than half of Wyoming's black (45.5 percent) and American Indian (48.0 percent) populations have any education beyond high school.
- 22.9 More than one in five (22.9 percent) of Wyoming's Hispanic population had less than a high school diploma.
- People ages 65 and older are making up a larger portion of Wyoming's population than ever before, yet 16.0 percent have less than a high school diploma. This is a higher percentage than any other age group.
- Of the top 20 growth occupations for 2011 to 2021, 10 require a high school education or less, 5 require some college or a certificate, 1 requires an associate's degree, and 4 require a bachelor's degree.
- The most significant growth is projected in the mining and health care & social assistance industries.

Introduction

According to the latest long-term projections from the Research & Planning section of the Wyoming Department of Workforce Services, the next 10 years in Wyoming will be very similar to the last 10 years. The mining industry likely will continue to drive the state's economy, and the aging of the baby boom generation will fuel the need for more workers to deliver health care services to Wyoming residents.

From 2011 to 2021, Wyoming is projected to add 40,874 net new jobs, nearly half of which will be found in the mining (8,458) and health care & social assistance (9,258) industries (see Table 1). These two industries will provide the greatest opportunity for employment over the next 10 years.

This section of the Integrated Plan examines long-term industry and occupational projections for Wyoming from 2011 to 2021. In general, an *industry* refers to the type of firm for which a person works. An *occupation* refers to a specific task or set of tasks performed by an individual. A single occupation may be present in a variety of industries. For example, accountants, in addition to working in accounting firms, may also work for mining companies, hospitals, state or local government, and many other industries.

It is important to note that projections are based on historical trends, and at this time cannot account for factors such as rapid economic expansions or contractions, large scale government investments and initiatives, revolutionary changes in technology, and other deviations from the general trend.

As an example, Gruber (2012) writes that “the Affordable Care Act will boost the economy.” The new law will provide health insurance coverage to more than 30 million Americans, which will increase the demand for health care. To meet this demand, health care providers will need to add a significant number of support staff for occupations that do not require extensive education and training. Currently, projections cannot account for this sort of change.

Projections are updated annually and are available online at <http://doe.state.wy.us/LMI/projections.htm>.

This section also includes information on educational requirements, skills needs, and a description of the characteristics and employment-related needs of the state's population and sub-populations.

Industry Projections: Mining

The mining industry has long been the driving force behind Wyoming's economy, and the global demand for coal will continue to present opportunities for the state's coal producers. A projected rise in demand for coal is largely due to increased power demand in emerging economies, particularly India and China. According to the International Energy Agency (IEA, 2011), "the IEA projects average coal demand to grow by 600,000 (tons) every day over the next five years."

Domestically, the gradual shift from coal-fired power plants to those that rely on natural gas may present opportunities for Wyoming's natural gas producers. Power plants fired by natural gas are an attractive option due to low prices for the resource and stable capital cash costs for new plans. In addition, "natural gas has the lowest carbon content (CO₂) of any other hydrocarbon fuel," making it an attractive option for reducing carbon dioxide emissions (Langston, 2010).

Wyoming's mining industry is projected to add 8,458 net new jobs from 2011 to 2021, an increase of 32.0 percent (see Table 1a). The occupations projected to experience the most significant growth in this industry are operating engineers & other construction equipment operators (110 annual openings) and service unit operators, oil, gas, & mining (99 annual openings).

It is important to note that these annual openings are due to industry growth; these are new jobs that do not currently exist. On the other hand, the greatest opportunity for employment over the next 10 years will be driven by the need to replace workers who leave the state's workforce; this is referred to as *replacement need*. These job openings are due to workers permanently exiting Wyoming's labor force because of retirement, death, family obligations, or other reasons.

In Wyoming's mining industry, employers will need to fill 2,455 jobs annually over the next 10 years due to replacement need. For example, there will be an estimated 61 annual openings for roustabouts, oil & gas, due to industry growth. However, there will be 232 annual openings for this occupation due to workers exiting Wyoming's labor force (see Table 1a).

Industry Projections: Health Care & Social Assistance

The need for workers in health care-related occupations in Wyoming will grow considerably over the next 10 years. The advanced age of Wyoming's population will have a major impact on this change. As people in Wyoming age, they will require more health care. Additionally, as more people employed in health care occupations reach the traditional retirement age of 65, their departure from Wyoming's workforce will create a need to fill vacant jobs (Research & Planning, 2011).

Because of rapid, sweeping changes to health care, projections for this industry in particular are constantly changing, as they are influenced by a variety of factors other than the historic trend line normally used to produce industry and occupational projections. Linear projections cannot account for changes caused by health care workforce-related legislation, such as the Health Information Technology for Economic and Clinical Health Act or the Patient Protection and Affordable Care Act of 2010. Other factors include employers offering higher wages and more benefits, substantial changes in the economy, and new technologies and their diffusion, such as electronic medical records and voice recognition technology (Leonard, 2010).

Wyoming's health care industry is projected to add 9,258 net new jobs due to industry growth from 2011 to 2021 (see Table 1b). Wyoming employers will need to add a projected 1,224 new registered nurses during this 10-year period, or 122 per year. Many of the other occupations in health care projected to grow significantly are lower paying jobs that do not require as much education. Aside from registered nurses, four of the top five projected growth occupations in health care are paid a considerably lower wage than the industry annual average of \$46,037. For example, personal & home care aides are paid \$22,275 annually on average, while child care workers are paid an annual average wage of \$23,076.

Employers in the health care industry will also need to fill 3,591 jobs annually due to permanent exits (see Table 1b). Retirement will be a major contributing factor in the need to fill jobs, especially among registered nurses. In third quarter 2010, 1,213 registered nurses working in Wyoming were between the ages of 45 and 54, 1,024 were between the ages of 55 and 64, and 169 were 65 or older. Together, these age groups represented 59.6 percent of all registered nurses working in Wyoming in third quarter 2010 (see Figure 1). During the next 10 years, many of these workers will reach the traditional retirement age of 65, and these openings will need to be filled. From 2011 to 2021, Wyoming employers will need to fill 453 jobs for registered nurses annually (see Table 1b).

Projections: Educational Requirements

Of the 40,874 projected net new jobs in Wyoming from 2011 to 2021, more than half (20,874) are projected to be jobs that require a high school education or less (see Table 2). Wyoming is projected to add 1,514 new operating engineers & other construction equipment operators and 1,139 truck drivers, heavy & tractor-trailer, during this 10-year period.

The other 20,000 jobs due to growth require some sort of postsecondary education, from a certificate to a doctoral or professional degree. Wyoming is projected to add 7,004 net new jobs that require some college or a certificate, such as teacher assistants (1,085), industrial machinery mechanics (528), electricians (502), and licensed practical & licensed vocational nurses (201).

Of the 2,289 projected new jobs that require an associate's degree, many are found in the health care industry. This includes registered nurses (1,325, or 57.9 percent), dental hygienists (118, or 5.2 percent), and respiratory therapists (85, or 3.7 percent).

Jobs requiring a bachelor's degree make up the second largest group for projected growth in Wyoming from 2011 to 2021 (8,081, or 19.8 percent). Of the top 10 projected growth occupations requiring a bachelor's degree, 5 are teachers. Other projected growth occupations that require a bachelor's degree include general & operations managers, accountants & auditors, and petroleum engineers.

As Table 2 shows, a higher educational requirement usually means a higher average annual wage. For example, even though jobs requiring a high school education or less make up more than half of all growth occupations, the average annual wage for this group was \$33,749. This is considerably less than jobs that require some college or a certificate (\$42,683), an associate's degree (\$54,902), a bachelor's degree (\$58,946), or greater.

Research has shown that in many cases, Wyoming colleges are not producing enough completers to fill the number of average annual openings for jobs that require a postsecondary education (Moore, 2011). For example, 52 people completed a social work degree program in Wyoming in 2009 (see Table 3). However, there were 170 projected annual openings within the occupations that required this degree, creating a shortage of 118. This type of shortage was found in many of the selected health care occupations. Some occupations with a substantial number of shortages included registered nurses (-222), physical therapists (-66), medical & clinical laboratory technicians (-53), respiratory care occupations (-

41), substance abuse and addiction counseling occupations (-39), occupational therapists (-30), medical transcriptionists (-28), and licensed practical & licensed vocational nurses (-23).

These shortages do not take into account the number of college completers who left Wyoming to work in another state, or college completers from other states who came to work in Wyoming. Future analysis of licensing board files, however, will provide insight into this process of labor import/export for selected occupations. Also, factors such as new technologies and new legislation could create the need to fill even more openings than projected, creating an even greater difference between the number of college completers and the number of openings that need to be filled.

Many of these occupations may be impacted by new technologies; for example, what impact might voice recognition software have on medical transcriptionists? As new voice recognition software is used in a greater number of offices, it may eliminate the need for medical transcriptionists. Although this is considered a shortage occupation using the current occupational projections, the development and implementation of this type of technology may reduce or even eliminate the need for these positions to be filled.

New Hires in Wyoming

Projections focus on net change and miss the underlying dynamic captured by Research & Planning's New Hires Survey. This survey provides rich detail that was not previously available at the occupational level; this data allows R&P to examine the wage gap between males and females at the occupational level, determine for which types of jobs older workers are being hired, identify hours worked for each occupation, and more.

From fourth quarter 2010 to third quarter 2011, Wyoming employers added an estimated 129,322 new hires. These were workers who were hired by a firm for which they had not worked in at least the last 20 years, the time frame for which R&P has unemployment insurance wage records (Knapp, 2011). The majority of the occupations that were filled were low-paying jobs that do not require education beyond high school, such as retail salespersons (5,070 new hires, \$9.00 per hour), office clerks (4,860, \$12.00), maids & housekeeping cleaners (4,717, \$8.50), cashiers (4,639, \$8.50), and dishwashers (3,311, \$8.00).

Among all new hires, the average hourly wage was \$12.00. However, occupations that required a postsecondary education offered a considerably higher wage. Wyoming employers hired 1,043 new

registered nurses during this time at an average hourly wage of \$22.76; this occupation requires at least an associate's degree. Employers also hired 681 general operations managers with an average hourly wage of \$21.34; this occupation requires a bachelor's degree.

Information from the New Hires Survey is available online at <http://doe.state.wy.us/LMI/newhires.htm>.

Conclusion: Training for the Future

Figure 2 and Table 4 illustrate the total growth, average annual wage, educational requirements, and skills needs for the top 20 growth occupations in Wyoming from 2011 to 2021. This figure combines the projections, educational requirements, and skills needs presented in this section to help policymakers, educators, employers, and others plan for future workforce needs and determine their best possible return on investment. Some occupations are projected to offer a large number of new jobs and a relatively high annual wage. Other occupations may offer one of these advantages but not the other.

For example, the top growth occupation for Wyoming over the next 10 years is projected to be operating engineers & other construction equipment operators. This occupation has both a large number of projected new jobs (1,514) and a relatively high average annual wage (\$47,929); it requires no formal education beyond high school and important skills include operation and control, operation monitoring, and active listening. By comparison, Wyoming is projected to add 1,085 new teacher assistants; this occupation requires some college or a certificate. There are a high number of new jobs projected for this occupation, but the average annual wage is considerably lower at \$25,469.

Demographics

Race

The information provided in this section refers only to those 18 and older. In 2010, there were 421,747 persons 18 and older living in Wyoming (U.S. Census Bureau, n.d.). Of this population, 92.8 percent were white, 2.0 percent were American Indian, 0.7 percent were black, 0.9 percent were Asian, and 3.5 percent were identified as "other" (see Figure 3). In addition, 7.0 percent of Wyoming's population ages 18 and older identified themselves as Hispanic, while 93.0 percent were non-Hispanic (see Figure 4). The term "Hispanic" refers "to persons who trace their origin or descent to Mexico, Puerto Rico, Cuba,

Spanish speaking Central and South America countries, and other Spanish cultures. Origin can be considered as the heritage, nationality group, lineage, or country of the person or the person's parents or ancestors before their arrival in the United States. People who identify their origin as Hispanic or Latino may be of any race” (U.S. Census Bureau, n.d.).

Across all races, 59.9 percent of those age 18 and older in Wyoming had some education beyond high school (see Figure 5). Another 31.4 percent had earned a high school diploma as their highest level of education, while 8.7 percent had less than a high school diploma. The percentage of people with less than a high school diploma was highest among Wyoming’s American Indian (21.6 percent) and black (10.8 percent) populations. Of the 7,363 people described as “other race,” 24.8 percent had less than a high school education.

Of the estimated 3,159 blacks ages 18 and older living in Wyoming, 10.8 percent (341) had less than a high school diploma. Another 43.7 percent had a high school diploma as their highest level of education. Wyoming’s black population had the lowest percentage of people with any education beyond high school (45.5 percent) of all races.

Less than half of Wyoming’s American Indian population ages 18 and older (48.0 percent) had some education beyond high school. In addition, 21.6 percent of all American Indians in Wyoming had less than a high school diploma, by far the highest percentage among all races in the state.

Among Wyoming’s Hispanic population, 22.9 percent had less than a high school diploma, compared to 7.6 percent of non-Hispanics and 8.7 percent overall. Only 39.9 percent of the state’s Hispanic population had any education beyond high school.

Age

A large percentage of Wyoming’s population will reach the traditional retirement age of 65 over the next 10 years. Of the 421,747 persons age 18 and older in Wyoming in 2010, 16.7 percent (70,330) were between the ages of 55 and 64, and an additional 16.2 percent (68,459) were 65 and older (see Figure 6).

Wyoming employers have made a substantial investment in workers ages 65 and older. In 2011, 3.8 percent (13,349) of those working in Wyoming at any given time were age 65 or older (Research & Planning, 2012a). In addition, the New Hires Survey from the Research & Planning R&P section of the

Wyoming Department of Workforce Services shows that Wyoming employers added 2,069 new workers age 65 or older from fourth quarter 2010 to third quarter 2011 (Research & Planning, 2012b). As previously noted, these were workers who were hired by a firm for which they had not worked in at least the last 20 years. These older workers were hired for diverse occupations such as office clerks, general; truck drivers, heavy & tractor-trailer; hotel, motel, & resort desk clerks; cooks, fast food; and roustabouts, oil & gas.

Of all Wyoming residents age 65 and older, 16.0 percent (10,987) had less than a high school diploma (see Figure 6). Those in the 65 and older age group made up 29.9 percent of the state's population that had less than a high school diploma (see Figure 7).

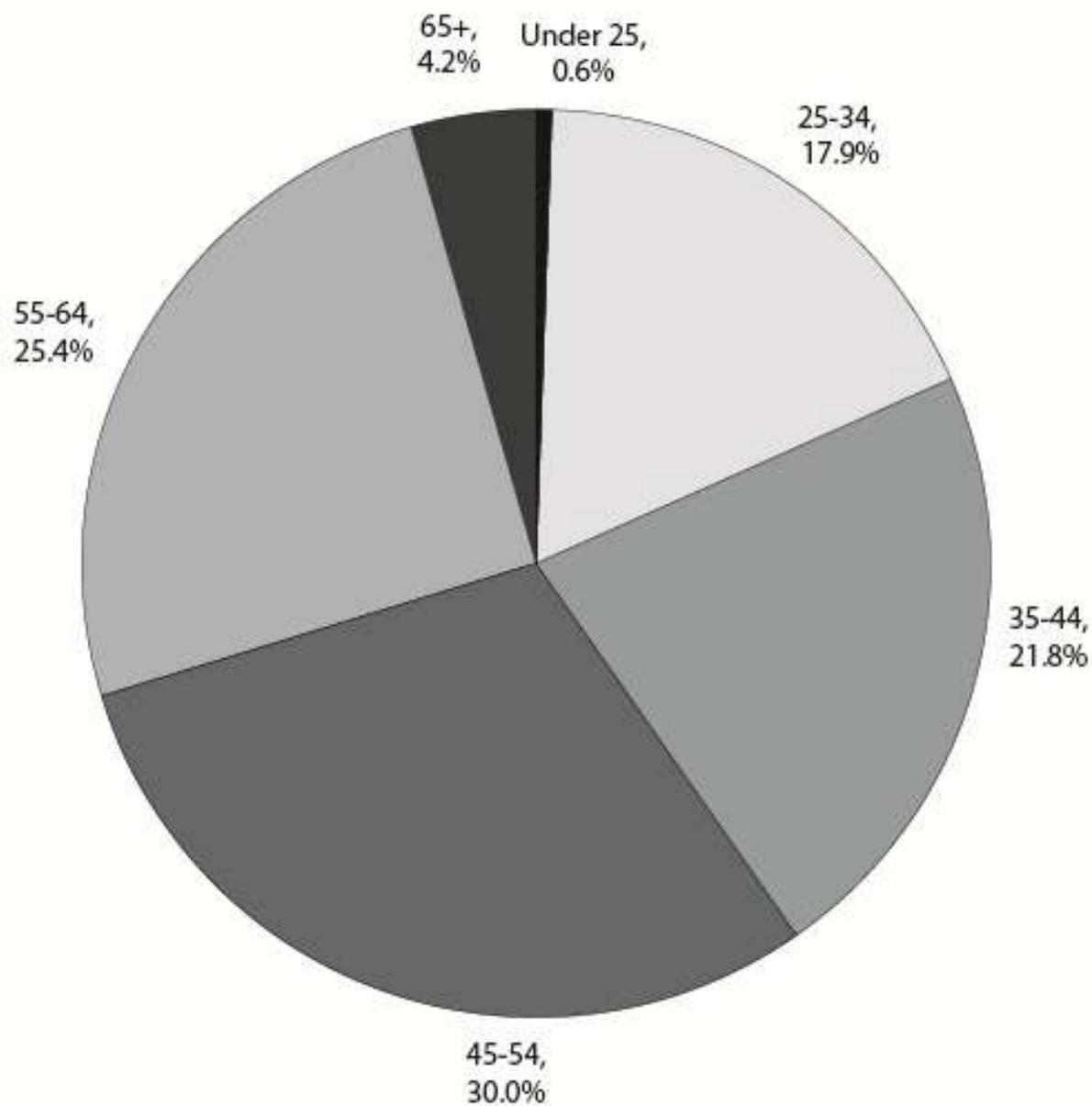
Gender

Males (50.7 percent) and females (49.3 percent) each made up a similar percentage of Wyoming's population ages 18 and older. A slightly higher percentage of males (9.6 percent) than females (7.8 percent) had less than a high school diploma. A higher percentage of females (63.1 percent) had some education beyond high school than males (56.8 percent).

Veterans

In 2010, there were an estimated 51,742 veterans in Wyoming, accounting for 12.3 percent of the state's total population ages 18 and over. Veterans are defined as those who have served on active duty in the U.S. military but are not currently serving (U.S. Census Bureau, n.d.). Those who served in the National Guard or Reserves are not classified as veterans if they were not called or ordered to active duty. Wyoming's veterans had a slightly higher level of education than non-veterans, as 63.7 percent had some education beyond high school, compared to 59.4 percent of non-veterans. Only 7.1 percent of veterans had less than a high school diploma, compared to 8.9 percent of non-veterans.

**Figure 1: Age Distribution of Registered Nurses Working in Wyoming,
Third Quarter 2010**



Source: Wyoming State Board of Nursing.
Does not equal 100.0% due to rounding.

Figure 1: Top 20 Occupations by Total Growth and Average Annual Wage in Wyoming, 2011 to 2021

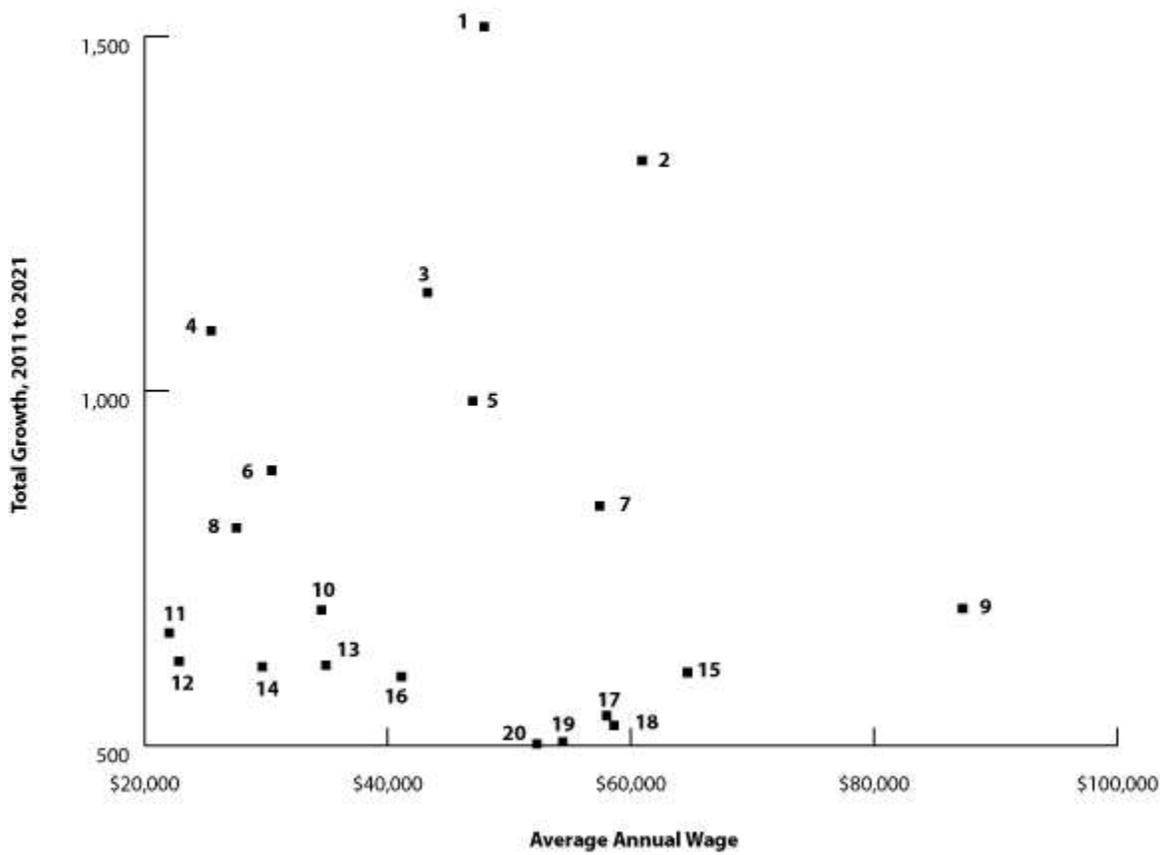
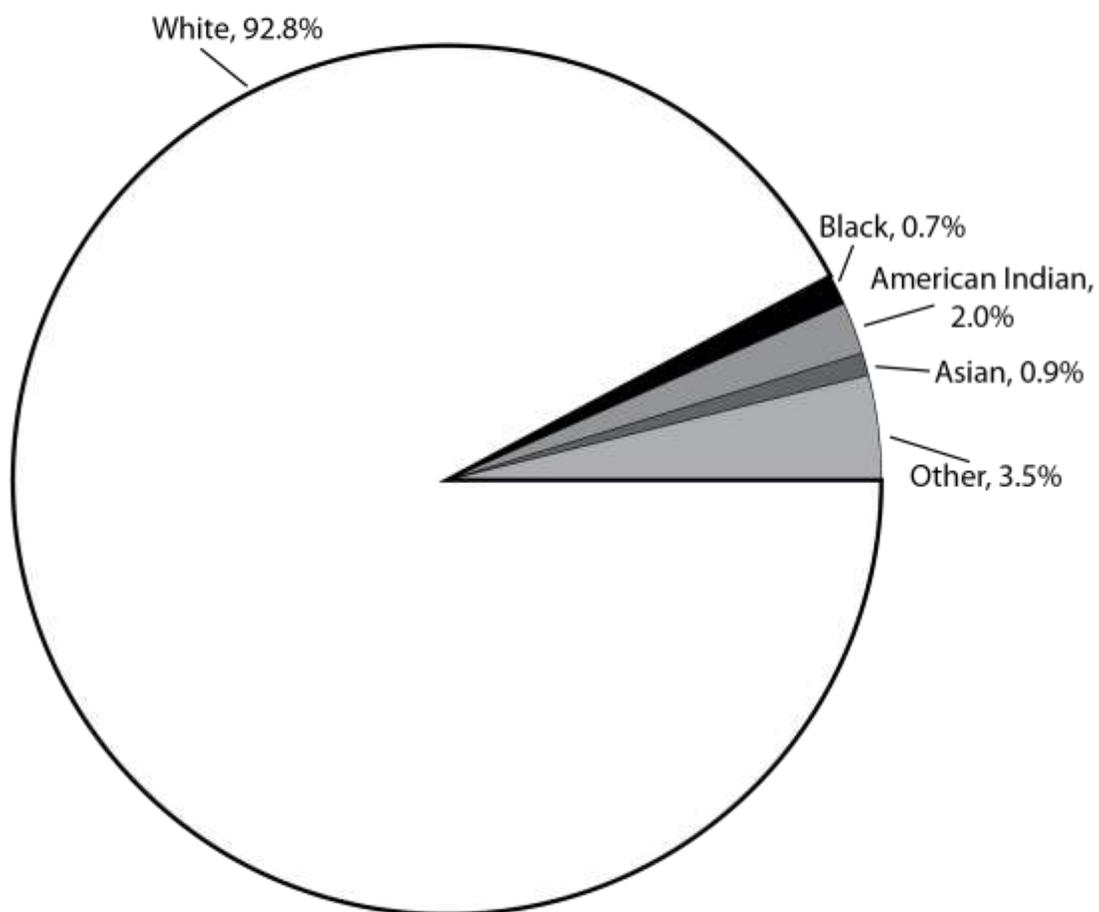


Figure 3: Wyoming Population Age 18 and Older by Race, 2010 (N = 421,747)



Does not equal 100% due to rounding.

Source: American Community Survey (3-year data), U.S. Census Bureau

Figure 4: Wyoming's Hispanic and Non-Hispanic Populations, 2010 (Total N = 421,747)

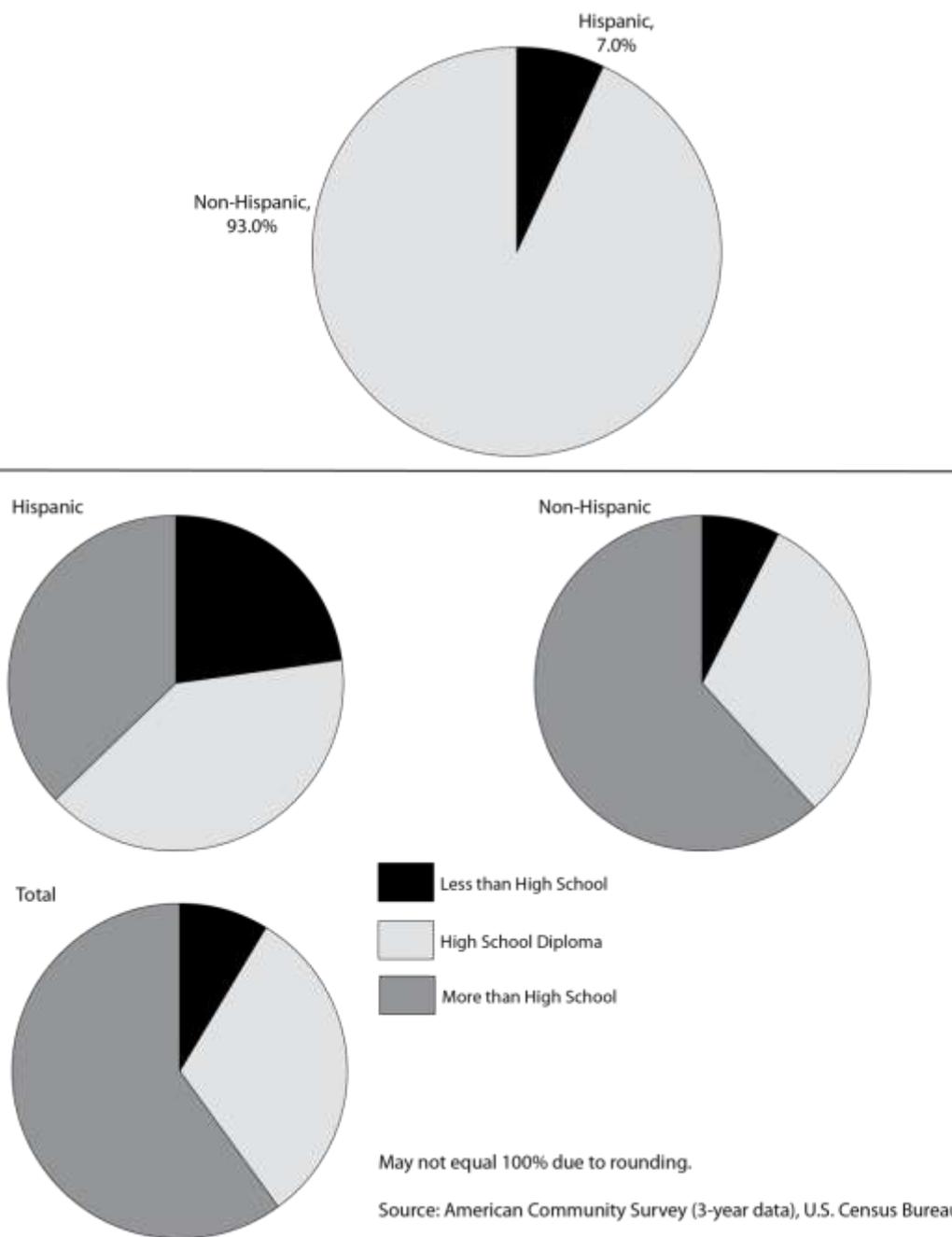


Figure 5: Highest Level of Education in Wyoming by Race, 2010

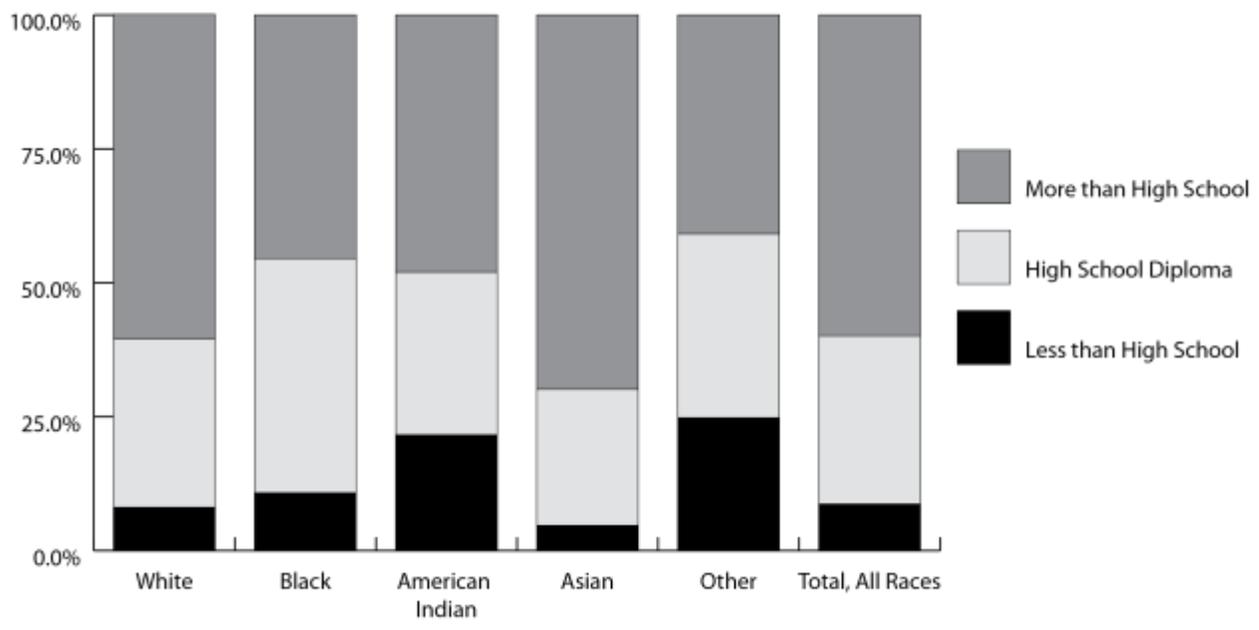


Figure 6: Highest Level of Education in Wyoming by Age Group, 2010

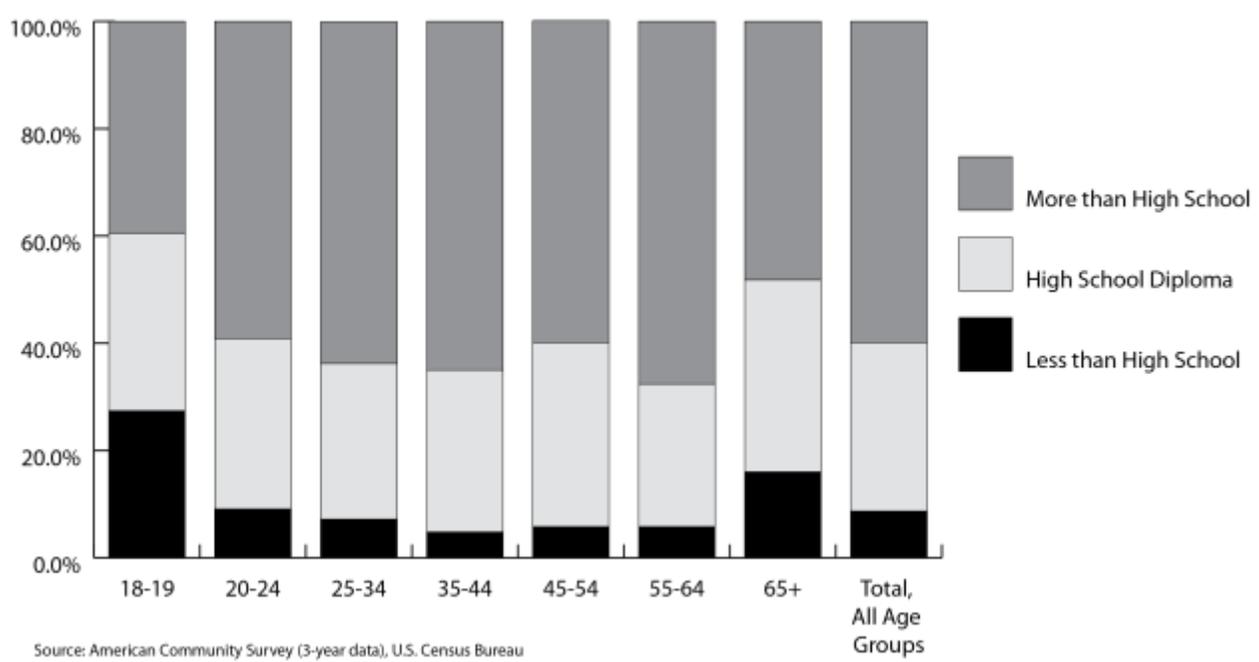
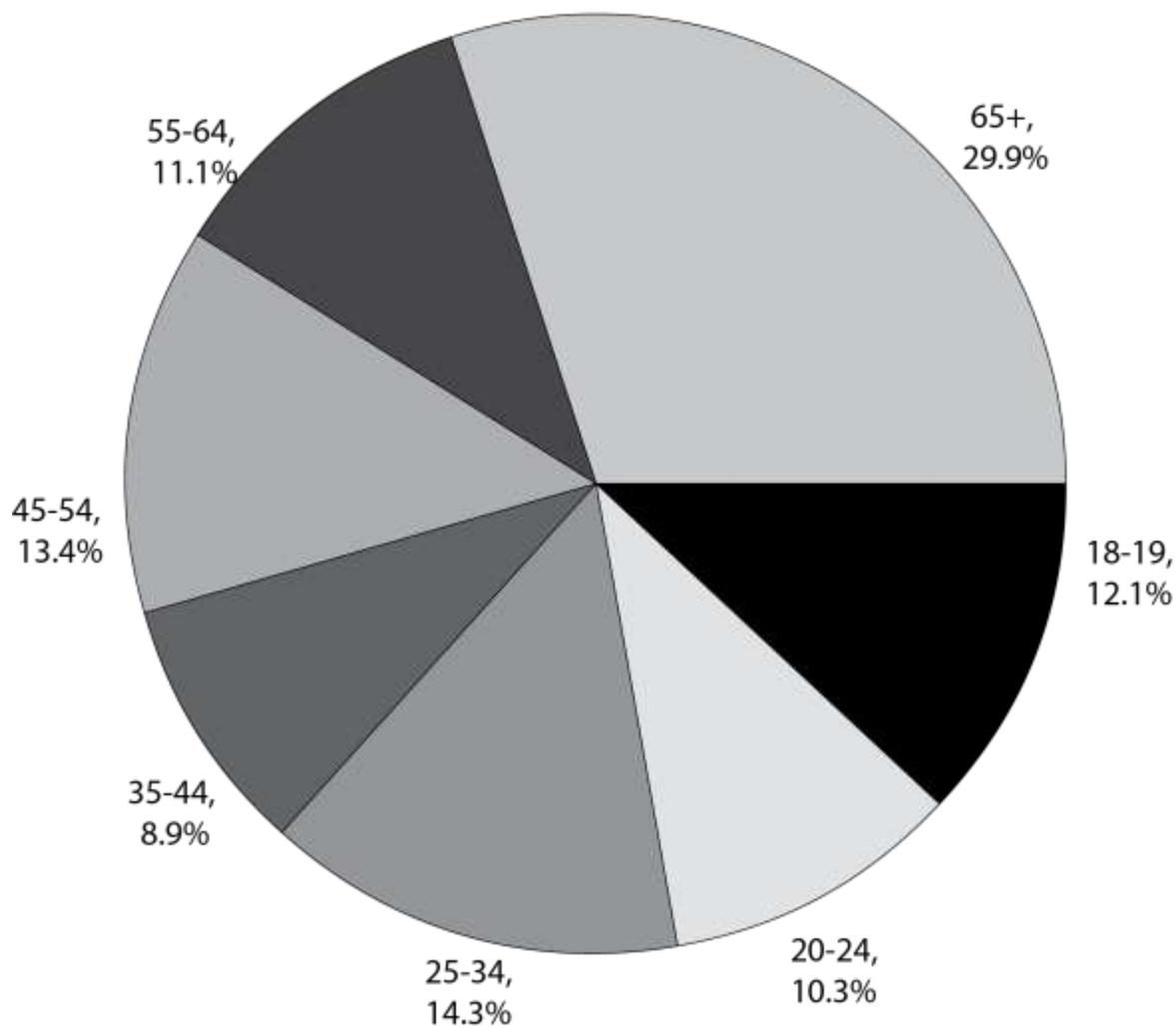


Figure 7: Wyoming Population Ages 18 and Older with Less than a High School Diploma by Age Group, 2010 (N = 34,617)



Does not equal 100% due to rounding.

Source: American Community Survey (3-year data), U.S. Census Bureau

Table 1: Long-Term Industry Projections for Wyoming, 2011 to 2021

Industry	Employment		Growth		Annual Openings	
	2011 (Estimated)	2021 (Projected)	N	%	Growth	Permanent Exits
Agriculture, Forestry, Fishing, & Hunting	2,408	2,660	252	10.5	25	259
Mining	26,423	24,881	8,458	32.0	846	2,455
Utilities	2,501	2,945	443	17.7	44	157
Construction	21,665	23,704	2,039	9.4	204	2,480
Manufacturing	9,061	8,478	-583	-6.4	-58	750
Wholesale Trade	8,684	10,498	1,814	20.9	181	796
Retail Trade	29,161	29,105	-56	-0.2	-6	3,254
Transportation & Warehousing	9,167	11,904	2,737	29.9	274	1,153
Information	3,844	3,549	-295	-7.7	-30	355
Finance & Insurance	6,736	7,476	740	11.0	74	648
Real Estate & Rental & Leasing	3,951	4,747	796	20.1	80	502
Professional, Scientific, & Technical Services	8,955	10,673	1,718	19.2	172	1,034
Management of Companies & Enterprises	856	1,095	239	27.8	24	117
Administration & Support & Waste Management & Remediation Services	7,565	6,866	-699	-9.2	-70	908
Educational Services	30,106	38,215	8,109	26.9	811	2,556
Health Care & Social Assistance	31,779	41,036	9,258	29.1	926	3,591
Arts, Entertainment, & Recreation	2,304	2,525	222	9.6	22	242
Accommodation & Food Services	28,004	29,581	1,578	5.6	158	3,303
Other Services (except Public Administration)	8,090	9,316	1,226	15.2	123	967
Public Administration	30,951	33,829	2,878	9.3	288	2,220
Total, All Industries	272,210	313,084	40,874	15.0	4,087	27,747

Source: Wyoming Occupational Projections, 2011 to 2021,
<http://doe.state.wy.us/lmi/projections.htm>

Table 1a: Long-Term Projections for Wyoming's Mining Industry, 2011-2021

SOC Code	Occupation	Employment				Annual Openings		
		2011 (Estimated)	2021 (Projected)	Net Growth	Percent Growth	Growth	Replacement Need	Average Wage, March 2012
47-2073	Operating Engineers & Other Construction Equipment Operators	3,283	4,381	1,098	33.4	110	185	\$48,263.00
47-5013	Service Unit Operators, Oil, Gas, & Mining	2,644	3,630	986	37.3	99	334	\$47,311.00
47-5071	Roustabouts, Oil & Gas	2,009	2,622	613	30.5	61	232	\$41,413.00
47-5012	Rotary Drill Operators, Oil & Gas	1,549	2,041	493	31.8	49	178	\$54,948.00
47-1011	First-Line Supervisors/Managers of Construction Trades & Extraction Workers	1,267	1,704	437	34.5	44	143	\$65,105.00
	Total, All Occupations	26,423	34,881	8,458	32.0	846	2,455	\$57,275.00

Table 1b: Long-Term Projections for Wyoming's Health Care & Social Industry Industry, 2011-2021

SOC Code	Occupation	Employment				Annual Openings		
		2011 (Estimated)	2021 (Projected)	Net Growth	Percent Growth	Growth	Permanent Exits	Average Wage, March 2012
29-1111	Registered Nurses	4,259	5,483	1,224	28.7	122	453	\$61,722.00
31-1012	Nursing Aides, Orderlies, & Attendants	2,796	3,558	761	27.2	76	310	\$27,856.00
39-9021	Personal & Home Care Aides	1,501	2,163	661	44.1	66	203	\$22,275.00
39-9011	Child Care Workers	1,474	2,018	544	36.9	54	191	\$23,076.00
43-6013	Medical Secretaries	1,112	1,453	342	30.7	34	122	\$32,161.00
	Total, All Occupations	31,779	41,036	9,258	29.1	926	3,591	\$46,037.00

Table 2: Top 10 Occupations by Projected Growth for Each Level of Educational Requirement in Wyoming, 2011 to 2021

Occupation	Employment			Annual Openings Growth	Annual Openings Replacement Need	Average Annual Wage
	2011	2021	Change			
Total, All Education Levels	272,210	313,084	40,874	4,087	27,747	\$42,515
High School or Less						
Operating Engineers & Other Construction Equipment Operators	5,678	7,193	1,514	151	447	\$47,929
Truck Drivers, Heavy & Tractor-Trailer	6,264	7,402	1,139	114	706	\$43,266
Service Unit Operators, Oil, Gas, & Mining	2,644	3,630	986	99	334	\$46,984
Nursing Aides, Orderlies, & Attendants	3,208	4,016	807	81	342	\$27,566
Personal & Home Care Aides	1,619	2,278	659	66	215	\$22,043
Child Care Workers	2,044	2,663	619	62	246	\$22,836
Bookkeeping, Accounting, & Auditing Clerks	4,802	5,415	613	61	509	\$34,920
Office Clerks, General	4,471	5,081	611	61	463	\$29,683
First-Line Supervisors/Managers of Construction Trades & Extraction Workers	3,206	3,809	603	60	359	\$64,655
Roustabouts, Oil & Gas	2,292	2,890	597	60	261	\$41,127
Total, All Occupations	167,314	188,188	20,874	2,087	17,667	\$33,749
Some College or Certificate						
Teacher Assistants	3,798	4,883	1,085	109	333	\$25,469
Secretaries, Except Legal, Medical, & Executive	5,858	6,746	888	89	585	\$30,456
Industrial Machinery Mechanics	2,024	2,552	528	53	183	\$58,628
Bus & Truck Mechanics & Diesel Engine Specialists	1,706	2,212	505	51	143	\$54,399
Electricians	2,664	3,166	502	50	266	\$52,287
Maintenance & Repair Workers, General	3,713	4,200	488	49	369	\$41,843
Sales Representatives, Wholesale & Mfg., Except Tech. & Scientific Products	2,030	2,424	393	39	196	\$54,422
Gas Plant Operators	495	712	217	22	40	\$58,338
Mobile Heavy Equipment Mechanics, Except Engines	1,069	1,271	202	20	98	\$50,189
Licensed Practical & Licensed Vocational Nurses	801	1,002	201	20	87	\$40,557
Total, All Occupations	38,484	45,488	7,004	700	3,722	\$42,683

Table 2: Top 10 Occupations by Projected Growth for Each Level of Educational Requirement in Wyoming, 2011 to 2021

Occupation	Employment			Annual Openings Replacement		Average Annual Wage
	2011	2021	Change	Growth	Need	
Total, All Education Levels	272,210	313,084	40,874	4,087	27,747	\$42,515
Associate's Degree						
Registered Nurses	5,132	6,458	1,325	133	522	\$60,929
Dental Hygienists	407	525	118	12	45	\$66,556
Radiologic Technologists & Technicians	415	519	104	10	42	\$52,149
Power Plant Operators	410	500	89	9	26	\$62,155
Respiratory Therapists	284	369	85	9	30	\$54,771
Healthcare Support Workers, All Other	369	444	75	7	36	\$31,023
Medical & Clinical Laboratory Technicians	332	405	73	7	35	\$33,321
Computer Systems Analysts	321	373	53	5	31	\$65,447
Loan Interviewers & Clerks	427	479	52	5	41	\$33,514
Human Resources Assistants, Except Payroll & Timekeeping	210	258	48	5	21	\$37,312
Total, All Occupations	9,743	12,032	2,289	229	977	\$54,902
Bachelor's Degree						
Elementary School Teachers, Except Special Education	2,987	3,824	838	84	250	\$57,442
General & Operations Managers	5,254	5,948	693	69	555	\$87,270
All Other Teachers, Primary, Secondary, & Adult	2,503	3,194	691	69	210	\$34,557
Secondary School Teachers, Except Special & Vocational Education	1,913	2,455	542	54	162	\$58,016
Middle School Teachers, Except Special & Vocational Education	1,185	1,525	340	34	99	\$60,024
Accountants & Auditors	1,661	1,896	235	24	155	\$60,498
Special Education Teachers, Preschool, Kindergarten, & Elementary School	696	904	208	21	65	\$55,451
Child, Family, & School Social Workers	759	945	186	19	78	\$43,266
Social & Human Service Assistants	992	1,176	184	18	110	\$28,444
Petroleum Engineers	568	751	184	18	66	\$98,284
Total, All Occupations	44,535	52,616	8,081	808	4,247	\$58,946

Table 2: Top 10 Occupations by Projected Growth for Each Level of Educational Requirement in Wyoming, 2011 to 2021

Occupation	Employment			Annual Openings Growth	Annual Replacement Need	Average Annual Wage
	2011	2021	Change			
Total, All Education Levels	272,210	313,084	40,874	4,087	27,747	\$42,515
Master's Degree						
Educational, Vocational, & School Counselors	621	789	168	17	53	\$58,581
Physical Therapists	430	564	134	13	48	\$78,574
Education Administrators, Elementary & Secondary School	448	575	127	13	38	\$87,399
Speech-Language Pathologists	315	414	99	10	32	\$64,462
Occupational Therapists	263	349	85	9	29	\$64,364
Instructional Coordinators	362	447	85	8	30	\$58,522
Financial Managers	546	620	74	7	49	\$84,548
Mental Health Counselors	232	305	74	7	27	\$50,034
Clinical, Counseling, & School Psychologists	283	355	72	7	28	\$67,209
Mental Health & Substance Abuse Social Workers	228	297	68	7	25	\$44,424
Total, All Occupations	6,977	8,538	1,561	156	642	\$63,958
Doctoral or Professional Degree						
Postsecondary Teachers, All Other	491	616	125	12	43	\$64,715
Family & General Practitioners	407	522	116	12	41	\$187,538
Lawyers	757	864	106	11	73	\$90,344
Physicians & Surgeons, All Other	254	315	61	6	25	\$213,276
Dentists, General	170	220	49	5	18	\$150,587
Pharmacists	524	567	43	4	54	\$105,952
Veterinarians	182	215	32	3	21	\$71,433
Health Specialties Teachers, Postsecondary	116	143	27	3	10	\$73,522
Chiropractors	87	113	27	3	10	\$56,322
English Language & Literature Teachers, Postsecondary	104	131	27	3	9	\$63,042
Total, All Occupations	5,158	6,222	1,064	106	492	\$107,776

Table 3: College Completers for Selected Health Care Occupations in Wyoming

CIP Code	Degree Program	SOC Code	Occupation	Minimum Education Required	College Completers	Total Annual Openings	Total College Completers Compared to Estimated Average Annual Openings
420101	Psychology, General		Psychologists		122	43	79
		19-3031	Clinical, Counseling, and School Psychologists	Professional Degree		31	
		19-3032	Industrial-Organizational Psychologists	Bachelor's Degree		N/A	
		19-3039	Psychologists, All Other	Bachelor's Degree		12	
440701	Social Work		Social Work		52	170	-118
		21-1013	Marriage and Family Therapists	Master's Degree		3	
		21-1019	Counselors, All Other	Bachelor's Degree		0	
		21-1021	Child, Family, and School Social Workers	Bachelor's Degree		75	
		21-1022	Healthcare Social Workers	Bachelor's Degree		29	
		21-1023	Mental Health and Substance Abuse Social Workers	Master's Degree		43	
		21-1029	Social Workers, All Other	Bachelor's Degree		20	
450101	Social Sciences, General		Social Sciences		58	4	49
		19-3099	Social Scientists and Related Workers, All Other			0	
		19-4061	Social Science Research Assistants	Associate's Degree		4	
510204	Audiology/Audiologist & Speech-Language Pathology/Pathologis		Speech-Related Occupations		35	45	-10
		29-1127	Speech-Language Pathologists	Master's Degree		43	
		29-1181	Audiologists	N/A		2	
510601	Dental Assisting/Assistant	31-9091	Dental Assistants	OJT	0	78	-78
510602	Dental Hygiene/Hygienist	29-2021	Dental Hygienists	Associate's Degree	65	53	12
510708	Medical Transcription/Transcriptionist	31-9094	Medical Transcriptionists	Vocational Training	4	32	-28
510716	Medical Administrative/Executive Assistant & Medical Secreta	31-9092	Medical Assistants	OJT	0	75	-75
510803	Occupational Therapist Assistant	31-2011	Occupational Therapy Assistants	Associate's Degree	0	4	-4
510805	Pharmacy Technician/Assistant	29-2052	Pharmacy Technicians	OJT	2	55	-53
510904	Emergency Medical Technology/Technician (EMT Paramedic)	29-2041	Emergency Medical Technicians and Paramedics	Vocational Training	76	71	5
510907	Medical Radiologic Technology/Science - Radiation Therapist		Radiation Therapy		4	5	-1
		29-1124	Radiation Therapists	Associate's Degree		5	
		29-2034	Radiologic Technologists	Associate's Degree		N/A	
510908	Respiratory Care Therapy/Therapist		Respiratory Care		0	41	-41
		29-1126	Respiratory Therapists	Associate's Degree		38	
		29-2054	Respiratory Therapy Technicians	Associate's Degree		3	
510909	Surgical Technology/Technologist	29-2055	Surgical Technologists	Vocational Training	5	15	-10
510911	Radiologic Technology/Science - Radiographer (NEW)	29-2034	Radiologic Technologists	Associate's Degree	15	N/A	
510913	Athletic Training/Trainer	29-9091	Athletic Trainers	Bachelor's Degree	6	3	3
511004	Clinical/Medical Laboratory Technician	29-2012	Medical and Clinical Laboratory Technicians	Associate's Degree	0	53	-53
511009	Phlebotomy/Phlebotomist (NEW)	31-9097	Phlebotomists	N/A	0	N/A	

Table 3: College Completers for Selected Health Care Occupations in Wyoming

CIP Code	Degree Program	SOC Code	Occupation	Minimum Education Required	College Completers	Total Annual Openings	Total College Completers Compared to Estimated Average Annual Openings
511501	Substance Abuse/Addiction Counseling		Substance Abuse/Addiction Counseling		0	39	-39
		21-1011	Substance Abuse and Behavioral Disorder Counselors	Bachelor's Degree		10	
		21-1014	Mental Health Counselors	Master's Degree		29	
511601	Nursing - Registered Nurse Training (RN, ASN, BSN, MSN)	29-1111 & 29-1141	Registered Nurses	Associate's Degree	444	666	-222
511613	Licensed Practical /Vocational Nurse Training	29-2061	Licensed Practical & Licensed Vocational Nurses	Vocational Training	87	110	-23
512001	Pharmacy (PharmD [USA] PharmD, BS/BPharm [Canada])	29-1051	Pharmacists	Professional Degree	51	57	-6
512306	Occupational Therapy/Therapist	29-1122	Occupational Therapists	Master's Degree	0	30	-30
512308	Physical Therapy/Therapist	29-1123	Physical Therapists	Master's Degree	2	68	-66
512399	Rehabilitation and Therapeutic Professions, Other	29-1129	Therapists, All Other	N/A	6	N/A	
513501	Massage Therapy/Therapeutic Massage	31-9011	Massage Therapists	Vocational Training	17	13	4

Table 4: Growth, Average Annual Wage, Educational Requirement, Knowledge, Skills, and Abilities (KSA) for Wyoming's Top 20 Projected Growth Occupations, 2011-2021

Rank	SOC Code	Occupation	Total Growth, 2011 to 2021	Average Annual Wage	Educational Requirement	ksa_rank	Knowledge	Skills	Ability
1	47-2073	Operating Engineers and Other Construction Equipment Operators	1,514	\$47,929	High School or Less	1	Building and Construction	Operation and Control	Multilimb Coordination
						2	Mechanical	Operation Monitoring	Control Precision
						3	Customer and Personal Service	Monitoring	Depth Perception
						4	Engineering and Technology	Quality Control Analysis	Oral Comprehension
						5	Public Safety and Security	Active Listening	Reaction Time
2	29-1141	Registered Nurses	1,325	\$60,929	Associate's Degree	1	Psychology	Social Perceptiveness	Problem Sensitivity
						2	Customer and Personal Service	Monitoring	Inductive Reasoning
						3	Therapy and Counseling	Coordination	Oral Comprehension
						4	Medicine and Dentistry	Active Listening	Oral Expression
						5	Education and Training	Critical Thinking	Deductive Reasoning
3	53-3032	Truck Drivers, Heavy & Tractor-Trailer	1,139	\$43,266	High School or Less	1	Mechanical	Operation and Control	Reaction Time
						2	Transportation	Operation Monitoring	Response Orientation
						3	Customer and Personal Service	Repairing	Control Precision
						4	English Language	Speaking	Multilimb Coordination
						5	Design	Active Listening	Far Vision
4	25-9041	Teacher Assistants	1,085	\$25,469	Some College or Certificate	1	Psychology	Learning Strategies	Oral Comprehension
						2	Education and Training	Active Listening	Oral Expression
						3	Customer and Personal Service	Instructing	Speech Clarity
						4	English Language	Critical Thinking	Speech Recognition
						5	Computers and Electronics	Speaking	Near Vision
5	47-5013	Service Unit Operators, Oil, Gas, and Mining	986	\$46,984	High School or Less	1	Mechanical	Monitoring	Control Precision
						2	Customer and Personal Service	Operation Monitoring	Multilimb Coordination
						3	Transportation	Critical Thinking	Oral Expression
						4	Administration and Management	Coordination	Oral Comprehension
						5	Mathematics	Operation and Control	Depth Perception
6	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	888	\$30,456	Some College or Certificate	1	Clerical	Reading Comprehension	Speech Recognition
						2	Customer and Personal Service	Active Listening	Near Vision
						3	English Language	Writing	Oral Comprehension
						4	Computers and Electronics	Speaking	Oral Expression
						5	Administration and Management	Service Orientation	Written Expression
7	25-2021	Elementary School Teachers, Except Special Education	838	\$57,442	Bachelor's Degree	1	Education and Training	Learning Strategies	Oral Expression
						2	English Language	Monitoring	Oral Comprehension
						3	Geography	Reading Comprehension	Written Expression
						4	Computers and Electronics	Social Perceptiveness	Written Comprehension
						5	Customer and Personal Service	Writing	Speech Clarity

Table 4: Growth, Average Annual Wage, Educational Requirement, Knowledge, Skills, and Abilities (KSA) for Wyoming's Top 20 Projected Growth Occupations, 2011-2021

Rank	SOC Code	Occupation	Total Growth, 2011 to 2021	Average Annual Wage	Educational Requirement	ksa_rank	Knowledge	Skills	Ability
8		Nursing Aides, Orderlies, & Attendant	807	\$27,566	High School or Less				
9	11-1021	General and Operations Managers	693	\$87,270	Bachelor's Degree	1	Customer and Personal Service	Coordination	Oral Comprehension
						2	Administration and Management	Critical Thinking	Oral Expression
						3	Personnel and Human Resources	Reading Comprehension	Written Comprehension
						4	Clerical	Monitoring	Written Expression
						5	Mathematics	Speaking	Problem Sensitivity
10		All Other Teachers, Primary, Secondary, & Adult	691	\$34,557	Bachelor's Degree				
11	39-9021	Personal Care Aides	659	\$22,043	High School or Less	1	Customer and Personal Service	Service Orientation	Oral Expression
						2	Psychology	Monitoring	Oral Comprehension
						3	English Language	Speaking	Near Vision
						4	Education and Training	Active Listening	Problem Sensitivity
						5	Therapy and Counseling	Critical Thinking	Written Comprehension
12	39-9011	Childcare Workers	619	\$22,836	High School or Less	1	Customer and Personal Service	Social Perceptiveness	Oral Comprehension
						2	Education and Training	Monitoring	Oral Expression
						3	Psychology	Critical Thinking	Problem Sensitivity
						4	Clerical	Active Listening	Speech Clarity
						5	English Language	Speaking	Speech Recognition
13	43-3031	Bookkeeping, Accounting, and Auditing Clerks	613	\$34,920	High School or Less	1	Clerical	Active Listening	Oral Comprehension
						2	Economics and Accounting	Reading Comprehension	Written Comprehension
						3	Mathematics	Critical Thinking	Near Vision
						4	English Language	Speaking	Number Facility
						5	Computers and Electronics	Writing	Oral Expression
14	43-9061	Office Clerks, General	611	\$29,683	High School or Less	1	Clerical	Reading Comprehension	Oral Comprehension
						2	Customer and Personal Service	Active Listening	Oral Expression
						3	English Language	Speaking	Near Vision
						4	Computers and Electronics	Writing	Speech Clarity
						5	Mathematics	Service Orientation	Speech Recognition
15	47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	603	\$64,655	High School or Less	1	Building and Construction	Management of Personnel Resources	Oral Expression
						2	Mechanical	Coordination	Oral Comprehension
						3	Mathematics	Active Listening	Written Comprehension
						4	Administration and Management	Speaking	Deductive Reasoning
						5	Engineering and Technology	Time Management	Near Vision

Table 4: Growth, Average Annual Wage, Educational Requirement, Knowledge, Skills, and Abilities (KSA) for Wyoming's Top 20 Projected Growth Occupations, 2011-2021

Rank	SOC Code	Occupation	Total Growth, 2011 to 2021	Average Annual Wage	Educational Requirement	ksa_rank	Knowledge	Skills	Ability
16	47-5071	Roustabouts, Oil and Gas	597	\$41,172	High School or Less	1	Mechanical	Coordination	Static Strength
						2	Building and Construction	Repairing	Extent Flexibility
						3	Mathematics	Monitoring	Control Precision
						4	Public Safety and Security	Operation Monitoring	Multilimb Coordination
						5	Chemistry	Operation and Control	Trunk Strength
17	25-2031	Secondary School Teachers, Except Special and Career/Technical Education	542	\$58,016	Bachelor's Degree	1	Education and Training	Learning Strategies	Oral Expression
						2	English Language	Speaking	Speech Clarity
						3	Computers and Electronics	Reading Comprehension	Speech Recognition
						4	Psychology	Monitoring	Oral Comprehension
						5	Clerical	Writing	Near Vision
18	49-9041	Industrial Machinery Mechanics	528	\$58,628	Some College or Certificate	1	Mechanical	Operation Monitoring	Reaction Time
						2	Engineering and Technology	Repairing	Auditory Attention
						3	Design	Equipment Maintenance	Control Precision
						4	Mathematics	Troubleshooting	Hearing Sensitivity
						5	Building and Construction	Quality Control Analysis	Manual Dexterity
19	49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	505	\$54,399	Some College or Certificate	1	Mechanical	Repairing	Finger Dexterity
						2	Mathematics	Quality Control Analysis	Hearing Sensitivity
						3	Transportation	Troubleshooting	Manual Dexterity
						4	English Language	Equipment Maintenance	Near Vision
						5	Public Safety and Security	Critical Thinking	Multilimb Coordination
20	47-2111	Electricians	502	\$52,287	Some College or Certificate	1	Mechanical	Troubleshooting	Visualization
						2	Mathematics	Repairing	Oral Expression
						3	Building and Construction	Quality Control Analysis	Oral Comprehension
						4	Design	Coordination	Near Vision
						5	Education and Training	Learning Strategies	Visual Color Discrimination

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