

Higher Education Tuition Assistance And Work In West Virginia 2008

Results For PROMISE Scholarship and
West Virginia Higher Education Grant
Recipients

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Executive Summary

With rapidly rising tuition rates across the nation, the affordability of higher education has become an increasingly important issue for students, their families, and policymakers. States have responded to these concerns in a variety of ways, including higher education tuition assistance via grants. One innovation during the past 19 years is the adoption by several states of broad based merit-aid programs, which tend to have higher thresholds for academic performance. One of the justifications for these merit-based programs is the assertion that they will help the state retain its brightest students after graduation.

This report summarizes West Virginia labor market experiences of graduates from West Virginia public institutions of higher education that received either the PROMISE scholarship or funds from the West Virginia Higher Education Grant Program (HEGP). It is designed to provide evidence on the degree to which graduates from public institutions that received higher education tuition assistance (either from PROMISE or the HEGP programs) remained in the state to work at wage and salary jobs and the wages they earned.

Highlights of the study include:

Work Participation And Wages For PROMISE Scholarship Recipients

- According to data from the West Virginia Higher Education Policy Commission (HEPC), 3,692 PROMISE scholarship recipients have graduated from West Virginia public higher education institutions. This includes graduates during 2006-2007.
- Most PROMISE graduates earned their degrees during the 2005-2006 to 2006-2007 period (95.2 percent), so the results in this report summarize the labor market experiences of the first cohorts of graduates.
- Most PROMISE graduates to date earned either Associate's (15.6 percent) or Bachelor's (81.2 percent) degrees.
- The majority of PROMISE graduates to date are female (62.7 percent) and White (96.0 percent).
- Just over half of PROMISE graduates chose one of four areas of concentration: Business and Management (18.7 percent), Health Professions (14.8 percent), Education (9.2 percent), and Biological and Biomedical Sciences (8.4 percent).
- In 2008, 2,301 of the 3,692 PROMISE graduates worked at least one quarter at an establishment located in West Virginia, which translates into a work participation rate of 62.3 percent.
- The work participation rate for PROMISE graduates (62.3 percent) in 2008 was below the rate posted by all in-state graduates during the same period (67.6 percent). This suggests that PROMISE graduates are less likely to remain in the state after graduation.
- Annualized wages for PROMISE graduates were \$24,805 in 2008, well below annualized wages for all in-state graduates (\$34,678).
- Lower wages for PROMISE graduates in part reflect the fact that most graduates to date earned Associate's and Bachelor's degrees, which post relatively low starting wages. It also reflects the fact that PROMISE graduates are early in their careers and have not yet reached their full earnings potential.
- PROMISE graduates with Master's degrees earned the most in 2008, followed by graduates with Associate's and Bachelor's degrees.
- Female PROMISE graduates posted higher work participation rates than males (63.8 percent versus 59.8 percent), but males earned \$3,707 more in annualized wages.

- White PROMISE graduates earned the highest wages in 2008, at \$25,010.
- PROMISE graduates with Engineering degrees earned the most in 2008, but had a relatively low work participation rate. Science Technologies had the highest work participation rate, but about average wages in 2008.
- PROMISE graduates that are not enrolled in state public higher education earned \$28,906 in 2008, compared to \$18,727 for enrolled graduates. This reflects the fact that enrolled graduates are more likely to be engaged in part-time work or at jobs that do not fully reflect their earnings potential.
- PROMISE graduates that are not enrolled have lower work participation rates (59.0 percent) than graduates enrolled in the state (68.0 percent).

Work Participation And Wages For West Virginia Higher Education Grant Recipients

- There were 15,452 graduates during the 2003-2004 to 2006-2007 period that received funds through the HEGP, according to data from the West Virginia HEPC.
- Most of these graduates earned Bachelor's degrees (59.7 percent) and Associate's degrees (20.4 percent), with smaller shares of recipients earning Master's, First Professional, and Doctoral degrees.
- The majority of HEGP graduates during the period were female (64.7 percent) and White (93.7 percent). There were roughly similar numbers of HEGP graduates in each year.
- The four most popular areas of concentration accounted for nearly 60 percent of HEGP graduates during the period: Education (17.4 percent), Business and Management (16.0 percent), Health Professions (16.0 percent), and Liberal Arts (10.4 percent).
- In 2008, 70.4 percent of HEGP graduates worked at establishments located in West Virginia. That's well above the work participation rate posted by in-state graduates (67.6 percent) during the period.
- HEGP graduates earned annualized wages of \$32,052 in 2008, which is close to the average for all graduates (\$34,573) during the four year period.
- HEGP graduates with First Professional degrees earned the most in 2008 (\$78,073), while graduates with Associate's degrees earned the least (\$27,370).
- Female HEGP graduates posted higher work participation rates than males (72.6 percent versus 66.4 percent), but lower wages in 2008.
- Asian HEGP graduates earned the highest wages in 2008, but posted the lowest work participation rates.
- Engineering HEGP graduates earned the highest wages in West Virginia in 2008 (\$55,682), but also posted a relatively low work participation rate (54.6 percent).
- HEGP graduates in Science Technologies registered the highest work participation rate (88.0 percent), but also had below average wages (\$24,998).
- HEGP graduates that are not enrolled in higher education have higher wages (\$34,523 versus \$25,188) and lower work participation rates (67.3 percent versus 80.9 percent) than enrolled graduates.

The Data

The data analyzed in this study come from the matching of demographic information on graduates from West Virginia public institutions of higher education with employment records maintained by Workforce West Virginia and the federal government. Graduates reflect the highest degree earned during the 2003-2004 to 2006-2007 period. Employment is measured in 2008. The self-employed, student workers, most church workers, and unpaid family workers are generally not covered by this data. **For this report, U.S. Postal Service workers are not included, due to data limitations.**

Summary Data For PROMISE Scholarship And West Virginia Higher Education Grant Recipients

Summary By Degree, Gender, Race, And Year

According to the most recent data provided by the West Virginia Higher Education Policy Commission, 3,692 PROMISE scholarship recipients (those that received the scholarship for at least one semester) have graduated from West Virginia public higher education institutions. Of the 3,692 graduates that received the PROMISE scholarship, 3,515 (95.2 percent) graduated in the two most recent years, 2005-2006 and 2006-2007. Therefore, the following results illustrate the early work experience of the first two large waves of PROMISE graduates.

As Table 1 shows, 7.5 percent of graduates during the 2003-2004 to 2006-2007 period were PROMISE recipients. Since most PROMISE graduates received Bachelor's degrees, they make up a larger share of all Bachelor's degree recipients (at 10.5 percent). Indeed, most PROMISE graduates received Bachelor's degrees (81.2 percent) and Associate's degrees (15.6 percent). There were 66 Master's degree graduates and no Doctoral or First Professional degree graduates in these first PROMISE cohorts.

A majority of the PROMISE graduates, 2,314 (62.7 percent), were female, compared to 1,378 (37.3 percent) male. Thus, female PROMISE graduates were a larger share of all graduates (at 8.1 percent) than males (at 6.6 percent). Graduates with White ethnicity, at 3,544 graduates (96.0 percent), made up the largest share of the sample, followed by those with Asian ethnicity, with 49 graduates (1.3 percent), and Black ethnicity, with 41 graduates (1.1 percent).

An alternative source of financial aid, for West Virginia residents enrolling in an approved college or university within the state or Pennsylvania is the West Virginia Higher Education Grant Program (HEGP). The grant provides between \$1,300 and \$3,000 per year to students who demonstrate financial need and meet the academic criteria.¹ It is renewable for up to three additional years beyond the initial award.

There were 15,452 graduates from 2003-2004 to 2006-2007 who received an HEGP grant for at least one semester, shown in Table 1.² The characteristics of these graduates are generally similar to the PROMISE recipients, but they made up a much larger share of graduates during the period, accounting for 31.3 percent of graduates during the past four years.

A Bachelor's degree was the most common earned by HEGP recipients, at 59.7 percent. In addition, HEGP recipients with Bachelor's degrees accounted for 32.3 percent of all Bachelor's degree graduates during the period. Female HEGP recipients outnumbered males, 64.7 percent to 35.3 percent, and White graduates outnumbered all other ethnicities, at 93.7 percent. Note that we have more data for HEGP graduates, since the HEGP has been in existence longer than the PROMISE scholarship.

¹ Data for 2007-2008 academic year.

² According to data from the HEPC, there were 32,253 graduates from 1996-1997 to 2006-2007 that received HEGP funds. We analyze the shorter time period in order to compare to the experience of PROMISE graduates.

Table 1
Summary Statistics For W.Va. Public Higher Education Graduates
Receiving PROMISE And HEGP Assistance

	PROMISE Recipients		W.Va. HEGP Recipients		All Graduates	
	Graduates	Share of Graduates	Graduates	Share of Graduates	Graduates	Share of Graduates
Total	3,692	--	15,452	--	49,436	--
Residency						
In-state	--	--	--	--	36,947	74.7
Out-of-state	--	--	--	--	10,821	21.9
Other	--	--	--	--	1,668	3.4
Degree						
Associate	577	15.6	3,150	20.4	8,083	16.4
Bachelor	2,999	81.2	9,228	59.7	28,595	57.8
Master	66	1.8	2,373	15.4	9,457	19.1
Doctoral	--	--	47	0.3	686	1.4
First Professional	--	--	378	2.4	1,811	3.7
Gender						
Male	1,378	37.3	5,447	35.3	20,799	42.1
Female	2,314	62.7	10,005	64.7	28,637	57.9
Race						
White	3,544	96.0	14,483	93.7	44,751	90.5
Black	41	1.1	620	4.0	1,944	3.9
Hispanic	18	0.5	75	0.5	506	1.0
Asian	49	1.3	100	0.6	1,640	3.3
American Indian	n/d	n/d	44	0.3	148	0.3
Unknown	31	0.8	130	0.8	447	0.9
Year						
2003-2004	47	1.3	3,397	22.0	10,928	22.1
2004-2005	130	3.5	3,874	25.1	12,013	24.3
2005-2006	1,246	33.7	3,981	25.8	12,853	26.0
2006-2007	2,269	61.5	4,200	27.2	13,642	27.6

n/d: not disclosed

Finally, Table 1 also shows summary data for all graduates during the 2003-2004 to 2006-2007 period, for comparison purposes. From 2003-2004 to 2006-2007, the same time period for 3,692 of the PROMISE graduates, there were 49,436 graduates from all West Virginia public higher education institutions. As anticipated, the bulk of those graduates, 36,947 (74.7 percent), were in-state graduates.

Similar to the composition seen in the PROMISE and HEGP graduates, Bachelor's degrees were the most popular among all West Virginia graduates, at 57.8 percent. Associate's, Bachelor's, and Master's degrees combined totaled 93.3 percent of all degrees earned in the time period. Female graduates likewise outnumbered male graduates, 28,637 (57.9 percent) to 20,799 (42.1 percent). Students with White ethnicity comprised of the majority of all ethnicities, with 44,751 graduates (90.5 percent), followed by those with Black ethnicity, with 1,944 graduates (3.9 percent), and Asian ethnicity, with 1,640 graduates (3.3 percent).

Summary By Area Of Concentration

Table 2 provides data for PROMISE, HEGP, and all graduates by the area of concentration of their degree. The four most popular areas of concentration totaled than 50 percent of all degrees earned. Business, Management, Marketing, and Related degrees were the most prevalent choice, with 690 graduates (18.7 percent). Health Professions and Related Clinical Sciences were the second most chosen by PROMISE scholars, having 546 graduates (14.8 percent). Education, with

338 graduates (9.2 percent), and Biological and Biomedical Sciences, with 310 graduates (8.4 percent), complete the four major areas of concentration of PROMISE graduates that account for 51.0 percent of all degrees earned.

Table 2
Statistics For W.Va. Public Higher Education Graduates
During The 2003-2004 To 2006-2007 Period By Area Of Concentration

	PROMISE Recipients		W.Va. HEGP Recipients		All Graduates	
	Graduates	Share of Graduates	Graduates	Share of Graduates	Graduates	Share of Graduates
Total	3,692	--	15,452	--	49,436	--
Degree						
Agriculture, Ag. Operations	76	2.1	153	1.0	488	1.0
Architecture and Related Services	n/d	n/d	24	0.2	105	0.2
Biological and Biomed. Sci.	310	8.4	397	2.6	1,455	2.9
Bus., Mgmt., Mktg.	690	18.7	2,466	16.0	7,856	15.9
Communication, Journalism	204	5.5	501	3.2	2,264	4.6
Communications Technologies	n/d	n/d	50	0.3	111	0.2
Computer and Info. Sciences	54	1.5	210	1.4	777	1.6
Education	338	9.2	2,690	17.4	7,596	15.4
Engineering	205	5.6	458	3.0	2,110	4.3
Engineering Technologies	64	1.7	328	2.1	850	1.7
English	97	2.6	202	1.3	757	1.5
Family and Cons. Sci.	30	0.8	194	1.3	635	1.3
For. Lang., Lit. and Ling.	25	0.7	73	0.5	294	0.6
Health Professions	546	14.8	2,473	16.0	7,266	14.7
History	61	1.7	174	1.1	592	1.2
Legal Professions and Studies	n/d	n/d	183	1.2	703	1.4
Liberal Arts	154	4.2	1,607	10.4	4,948	10.0
Library Science	n/d	n/d	n/d	n/d	n/d	n/d
Mathematics and Statistics	18	0.5	49	0.3	229	0.5
Mechanic and Repair Tech.	n/d	n/d	36	0.2	111	0.2
Multi/Interdisciplinary Studies	86	2.3	257	1.7	1,056	2.1
Nat. Res. and Conserv.	34	0.9	149	1.0	493	1.0
Parks, Rec., Leisure	n/d	n/d	118	0.8	682	1.4
Personal and Culinary Services	n/d	n/d	24	0.2	73	0.1
Philosophy and Religious Studies	n/d	n/d	13	0.1	36	0.1
Physical Sciences	72	2.0	129	0.8	525	1.1
Precision Production	n/d	n/d	33	0.2	87	0.2
Psychology	191	5.2	563	3.6	1,627	3.3
Pub. Administration and Soc. Serv.	28	0.8	335	2.2	924	1.9
Science Technologies	14	0.4	117	0.8	316	0.6
Security and Protective Services	83	2.2	590	3.8	1,494	3.0
Social Sciences	n/d	n/d	571	3.7	1,861	3.8
Trans. and Materials Moving	n/d	n/d	n/d	n/d	n/d	n/d
Visual and Performing Arts	86	2.3	285	1.8	1,113	2.3

n/d: not disclosed

Like the PROMISE graduates, four areas of concentration encompass the majority of degrees earned by all West Virginia graduates. Business degrees were again the most popular, with 7,856 graduates (15.9 percent). Education was the second most popular field of choice, with 7,596 graduates (15.4 percent), edging out Health Professions and Related Clinical Sciences, with 7,266 graduates (14.7 percent). The first standout difference between PROMISE scholars and all West Virginia graduates comes from their fourth most common area of concentration. There were 4,948 of all West Virginia graduates (10.0 percent) who chose Liberal Arts and Sciences, General Studies, and Humanities, while only 154 PROMISE graduates (4.2 percent) decided on the same field. PROMISE graduates on the other hand, were much more likely to choose Biological and Biomedical Sciences, with 310 graduates (8.4 percent) than all West Virginia graduates, with only 1,455 graduates (2.9 percent).

The most popular areas of concentration for graduates receiving an HEGP grant closely mirror the most popular areas of concentration for all West Virginia graduates over the same time span. The four most common fields total nearly 60 percent of the sample, shown in Table 2. Education was the most chosen, at 17.4 percent; followed by Business, Management, Marketing, and

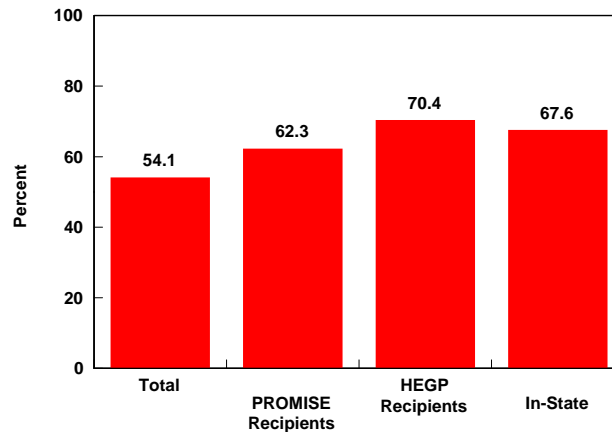
related, at 16.0 percent and Health Professions and Related Clinical Services, also at 16.0 percent; and Liberal Arts and Sciences, General Studies, and Humanities, at 10.4 percent.

Work Participation And Wages Of PROMISE And West Virginia Higher Education Grant Recipients

Work Participation Results

In 2008, 2,301 of the 3,692 PROMISE graduates earned wages from establishments in West Virginia. This yields a total work participation rate of 62.3 percent, as illustrated in Figure 1 and Table 3. At first glance, the PROMISE scholarship appears to be successful in retaining graduates in West Virginia, as the participation rate of PROMISE graduates is 8.2 percentage points higher than that of all graduates from West Virginia public higher education institutions from 2003-2004 to 2006-2007, at 54.1 percent. However, PROMISE scholar graduates, which, as a prerequisite, must be West Virginia residents, have a 5.3 percentage point lower work participation rate than all in-state resident graduates over the same time period, who had a work participation rate of 67.6 percent, and a 8.1 percentage point lower participation rate than HEGP recipients, who had a participation rate of 70.4 percent.

Figure 1
Work Participation In 2008 Of Graduates From West Virginia Public Higher Education Institutions During 2003-2004 To 2006-2007



As Table 3 also shows, PROMISE graduates earning an Associate's degree had the highest work participation rate, at 80.6 percent, followed by graduates earning a Master's degree, at 60.6 percent, and finally by graduates earning a Bachelor's degree, at 58.4 percent. Females were more likely to work in the state than males, 63.8 percent to 59.8 percent respectively. Those having Black ethnicity had the highest work participation rate at 63.4 percent, just ahead of those with White ethnicity, at 62.7 percent, and Hispanic ethnicity, at 61.1 percent.

We find similar trends in the data for HEGP graduates, with Associate's degree recipients posting the highest work participation rate (76.4 percent), followed by Master's, Bachelor's, First Professional, and Doctoral degree recipients. Female recipients post higher work participation rates than males (72.6 percent versus 66.4 percent). White recipients post high work participation rates (70.8 percent) and work participation rates fall time since graduation increases.

Note that work participation rates for Associate's degree graduates are higher for PROMISE graduates than for HEGP graduates, but that for all other degrees HEGP graduates post higher work participation rates. We also note that work participation rates rise a bit with experience for PROMISE graduates, which breaks the normal pattern for all graduates. This may be due to the relatively low numbers of PROMISE graduates during the 2003-2004 to 2004-2005 period, because the more recent PROMISE cohorts show the more normal declining pattern.

Table 3
Work Participation And Wages For W.Va. Public Higher Education Graduates
Receiving PROMISE And HEGP Assistance

	PROMISE Recipients		W.Va. HEGP Recipients		All Graduates	
	Work Participation Rates in 2008 (In Percent)	Annualized Wages In 2008	Work Participation Rates in 2008 (In Percent)	Annualized Wages In 2008	Work Participation Rates in 2008 (In Percent)	Annualized Wages In 2008
Total	62.3	24,805	70.4	32,052	54.1	34,573
Residency						
In-state	--	--	--	--	67.6	34,678
Out-of-state	--	--	--	--	11.5	33,449
Other	--	--	--	--	31.4	32,226
Degree						
Associate	80.6	27,556	76.4	27,370	72.0	30,183
Bachelor	58.4	23,947	67.7	29,121	49.7	29,918
Master	60.6	35,998	72.9	42,981	53.4	45,919
Doctoral	--	--	63.8	64,308	28.0	63,592
First Professional	--	--	65.6	78,073	49.6	72,601
Gender						
Male	59.8	27,185	66.4	35,675	48.0	38,452
Female	63.8	23,478	72.6	30,249	58.6	32,264
Race						
White	62.7	25,010	70.8	32,428	56.5	34,872
Black	63.4	18,976	64.2	24,984	43.4	26,574
Hispanic	61.1	20,789	66.7	25,192	29.8	29,127
Asian	32.7	19,054	55.0	34,867	15.1	40,681
American Indian	n/d	n/d	75.0	32,713	49.3	31,332
Unknown	61.3	16,344	70.8	22,489	36.2	26,792
Year						
2003-2004	80.9	31,014	65.8	36,498	50.2	39,806
2004-2005	70.8	27,316	69.5	34,465	53.4	36,971
2005-2006	59.7	26,707	71.9	30,819	55.0	33,353
2006-2007	62.9	23,487	73.6	27,876	57.0	30,007

n/d: not disclosed

Table 4 summarizes work participation rates for PROMISE graduates, HEGP graduates, and all graduates by area of concentration. For PROMISE graduates, Science Technologies, at 85.7 percent, had the highest participation rate of any disclosed area of concentration in 2008. Health Professions had the second highest participation rate, at 77.3 percent, followed by Education, at 71.6 percent, and History, at 68.9 percent. The lowest disclosed participation rates came from Physical Sciences, at 34.7 percent, and Biological and Biomedical Sciences, at 40.3 percent.

For HEGP graduates, Science Technologies (88.0 percent) also had the highest work participation rate (of the disclosed areas of concentration), followed by Precision Production (84.8 percent), Mechanic and Repair Technicians (83.3 percent), Education (79.6 percent), and Personal and Culinary Services (79.2 percent). The lowest work participation rates were posted for degrees in Mathematics and Statistics (49.0 percent) and Physical Sciences (51.9 percent).

Table 4
Statistics For W.Va. Public Higher Education Graduates
During The 2003-2004 To 2006-2007 Period By Area Of Concentration

	PROMISE Recipients		W.Va. HEGP Recipients		All Graduates	
	Work Participation Rates in 2008 (In Percent)	Annualized Wages In 2008	Work Participation Rates in 2008 (In Percent)	Annualized Wages In 2008	Work Participation Rates in 2008 (In Percent)	Annualized Wages In 2008
Total	62.3	24,805	70.4	32,052	54.1	34,573
Degree						
Agriculture, Ag. Operations	42.1	16,310	56.2	25,969	39.8	27,302
Architecture and Related Services	n/d	n/d	n/d	n/d	13.3	28,618
Biological and Biomed. Sci.	40.3	12,038	51.9	25,457	39.2	25,431
Bus., Mgmt., Mktg.	65.9	25,900	68.7	30,522	54.0	33,908
Communication, Journalism	56.9	18,863	62.5	27,935	41.7	30,842
Communications Technologies	n/d	n/d	70.0	17,316	64.0	20,211
Computer and Info. Sciences	66.7	35,638	65.2	36,805	51.0	38,429
Education	71.6	23,017	79.6	32,032	64.7	33,655
Engineering	45.9	44,998	54.6	55,682	32.6	58,135
Engineering Technologies	68.8	37,835	70.4	38,894	62.6	42,542
English	55.7	14,276	65.8	18,505	44.5	20,007
Family and Cons. Sci.	56.7	18,724	59.8	21,628	37.8	20,443
For. Lang., Lit., and Ling.	56.0	13,221	60.3	17,755	33.3	18,144
Health Professions	77.3	36,513	76.8	45,742	64.2	47,881
History	68.9	12,106	66.7	21,073	44.9	21,517
Legal Professions and Studies	n/d	n/d	71.0	41,754	60.7	47,361
Liberal Arts	68.8	13,521	69.3	23,483	59.1	28,199
Library Science	n/d	n/d	n/d	n/d	n/d	n/d
Mathematics and Statistics	n/d	n/d	49.0	34,818	32.3	33,362
Mechanic and Repair Tech.	n/d	n/d	83.3	40,917	72.1	38,973
Multi/Interdisciplinary Studies	60.5	30,024	66.1	29,254	54.5	30,508
Nat. Res. and Conserv.	70.6	23,979	71.8	26,984	45.6	31,488
Parks, Rec., Leisure	58.1	9,846	58.5	22,558	31.7	24,249
Personal and Culinary Services	n/d	n/d	79.2	18,123	64.4	20,300
Philosophy and Religious Studies	n/d	n/d	n/d	n/d	36.1	25,067
Physical Sciences	34.7	15,770	51.9	30,795	39.0	35,035
Precision Production	n/d	n/d	84.8	35,493	86.2	38,124
Psychology	66.0	16,327	67.0	22,746	49.8	23,633
Pub. Administration and Soc. Serv.	64.3	17,068	72.8	31,545	60.6	30,757
Science Technologies	85.7	25,852	88.0	24,998	81.3	29,752
Security and Protective Services	67.5	24,776	74.4	25,363	60.7	26,976
Social Sciences	57.9	17,734	69.4	22,864	42.3	23,559
Trans. and Materials Moving	n/d	n/d	n/d	n/d	n/d	n/d
Visual and Performing Arts	60.5	13,483	54.4	18,350	35.2	20,030

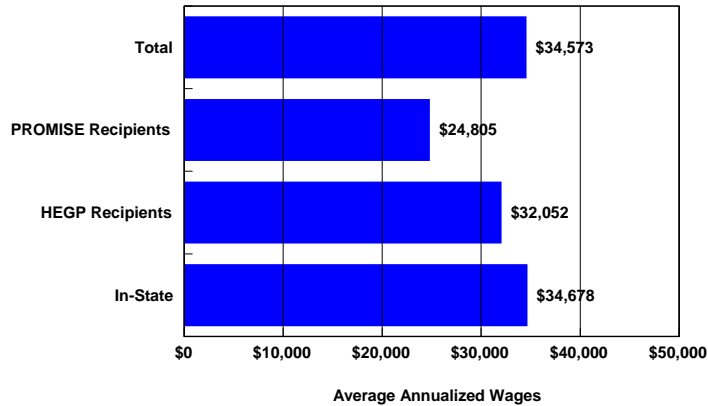
n/d: not disclosed

Work participation rates for most areas of concentration tend to be lower for PROMISE graduates than for HEGP graduates. However, 2008 work participation rates are higher for PROMISE graduates in Visual and Performing Arts, History, Computer and Information Sciences, and Health Professions.

Annualized Wage Results

The average annualized wage for graduates receiving a PROMISE scholarship and employed in West Virginia in 2008 was \$24,805, as Figure 2 and Table 3 show. This wage is substantially lower than the average wage for HEGP recipients, whose average wage in 2008 was \$32,052, and all West Virginia public higher education graduates during the period, at \$34,573. The difference is even larger when PROMISE graduates are compared with the average of all fellow in-state graduates, whose wage averaged \$34,678.

Figure 2
Average Annualized Wages In 2008 Of Graduates
From West Virginia Public Higher Education
Institutions During 2003-2004 To 2006-2007



For PROMISE graduates, Master’s degree recipients averaged the highest wage, at \$35,998, followed by graduates earning an Associate’s degree, at \$27,556, and then graduates earning a Bachelor’s degree, at \$23,947. Though being outnumbered and out participated by females, male PROMISE graduates averaged \$3,707 more than female PROMISE graduates. White graduates averaged the highest wage, at \$25,010, followed by graduates having Hispanic ethnicity, at \$20,789, and Asian ethnicity, at \$19,054. The more time a worker spends in the labor market, the more experience he/she has and the higher wage the worker should expect. It comes as no surprise that the graduates of 2003-2004, the earliest graduating class with disclosed data, had the highest wage, averaging \$31,014, and the most recent graduates, those of 2006-2007, had the lowest wage, averaging only \$23,487.

For HEGP graduates, wages are highest for First Professional degrees (\$78,073) and Doctoral degrees (\$64,308), followed by Master’s (\$42,981), Bachelor’s (\$29,121), and Associate’s degrees (\$27,370). In addition, males posted higher wages than females (\$35,675 versus \$30,249) and Asian graduates posted the highest wages (\$34,867) across race. We find that wages rise with experience, as expected.

Average annualized wages were lower for PROMISE graduates than for either HEGP graduates or all graduates during the period. These results arise in part because the vast majority of PROMISE graduates to date received Associate’s and Bachelor’s degrees, which tend to be associated with lower wage employment (than Master’s, First Professional, and Doctoral degrees).

Annualized wages for PROMISE graduates with Bachelor’s degrees, are closer to wages earned by HEGP Bachelor’s graduates (and all Bachelor’s graduates), but remain about \$5,000 lower. The difference can partly explained by differing levels of experience, because most PROMISE recipients graduated during the 2005-2006 to 2006-2007 period, while HEGP graduates (and all graduates) tend to have more experience. It is likely that as data for more PROMISE cohorts become available, wages will become more similar.

Table 4 summarizes annualized wages for PROMISE, HEGP, and all graduates by area of concentration. Engineering PROMISE graduates, while having one of the lowest participation rates, averaged the highest wage, at \$44,998. Next, were Engineering Technologies graduates, averaging \$37,835, slightly edging out Health Professions graduates, who averaged \$36,513, and Computer Science graduates, who averaged \$35,638. The lowest disclosed wages were earned by graduates in Parks and Recreation, at \$9,846, and Biological and Biomedical Sciences, at \$12,038.

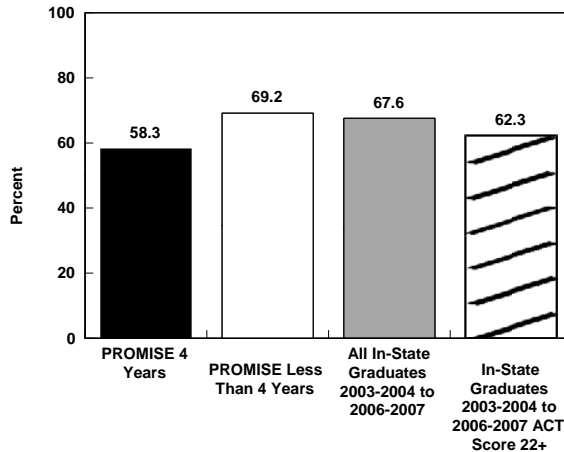
Annualized wages were highest for HEGP graduates in Engineering (\$55,682), followed by Health Professions (\$45,742), Legal Professions (\$41,754), Mechanic and Repair (\$40,917), and Engineering Technologies (\$38,894).

Length of PROMISE Scholarship

To this point, the data on PROMISE graduates included any graduate who had received the PROMISE scholarship for any length of time, anywhere from one semester to four years. The data shows that 2,346 PROMISE graduates (63.5 percent) received the PROMISE scholarship for the full four years, meaning 1,346 graduates held the scholarship for a shorter amount of time. There are a number of reasons why a student might receive a PROMISE scholarship for less than four years, ranging from academic reasons (for instance, no longer qualifying for the award) to completing a two-year degree.

Figure 3 shows that graduates who received the PROMISE scholarship for less than four years had a significantly higher work participation rate, at 69.2 percent, than graduates who held the scholarship for the full four years, at 58.3 percent. Graduates receiving the scholarship for less than four years also had a higher participation rate than all in-state graduates over the same time span, whose participation rate was 67.6 percent.

Figure 3
Work Participation In 2008 Of Graduates From West Virginia
Public Higher Education Institutions



One reason that graduates that received the scholarship for less than four years may post higher work participation rates may be that they are earning Associate's degrees (and we know that graduates with Associate's degrees are more likely to remain in the state to work). This is indeed part of the story, because Bachelor's degree graduates that received the scholarship for less than four years posted a work participation rate of 60.5 percent, which is close to the work participation rate of graduates that received PROMISE awards for all four years.

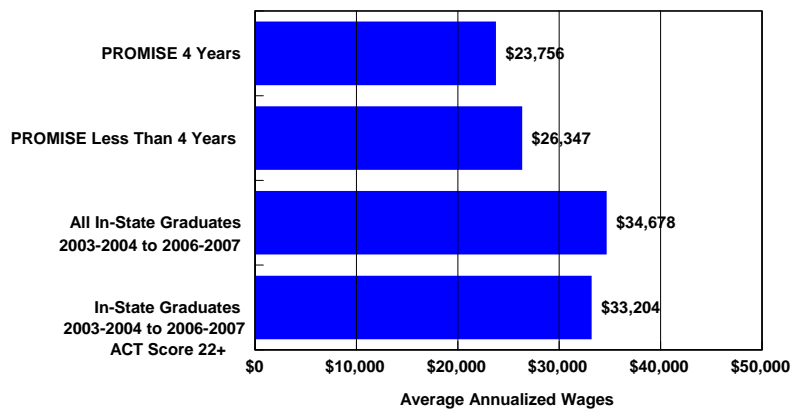
An additional factor may be academic achievement. We know that graduates with higher ACT composite scores are less likely to remain in the state to work (see *Academic Achievement and Work in West Virginia 2007*). If graduates that received the scholarship for less than four years do so because of academic ineligibility, then we expect their work participation rates to be higher.

The vast majority of HEGP graduates received the grant for less than eight semesters. Indeed, 2,424 graduates during the 2003-2004 to 2006-2007 period received the grant for eight semesters, compared to 13,028 that received the grant for less than eight semesters. Work participation rates were slightly higher for graduates that received the grant for eight semesters (71.2 percent) than for graduates receiving the grant for less than eight semesters (70.2 percent).

Wages for PROMISE graduates are lower than wages for other in-state graduates, regardless of time receiving the scholarship, illustrated in Figure 4. PROMISE graduates who held the scholarship all four years had the lowest average wage, at \$23,756, followed by PROMISE graduates who held the scholarship for less than four years, at \$26,347. Graduates with a Bachelor's degree that received the PROMISE scholarship for all four years earned \$23,274, while Bachelor's graduates that received the PROMISE scholarship for less than four years earned \$25,809.

Overall, annualized wages for PROMISE graduates tend to be lower than the average wage of all in-state graduates over the same time, who averaged \$34,678, and in-state graduates scoring 22+ on the ACT, who averaged \$33,204. Part of this difference is tied to the fact that PROMISE graduates are early in their careers (and thus have not yet had a chance to gain much experience or add to their education).

Figure 4
Average Annualized Wage In 2008 Of Graduates
From West Virginia Public Higher Education
Institutions



West Virginia HEGP graduates that received the grant for eight semesters posted annualized wages of \$32,107 in 2008, compared to \$32,041 for graduates that received the grant for less than eight semesters.

Enrollment

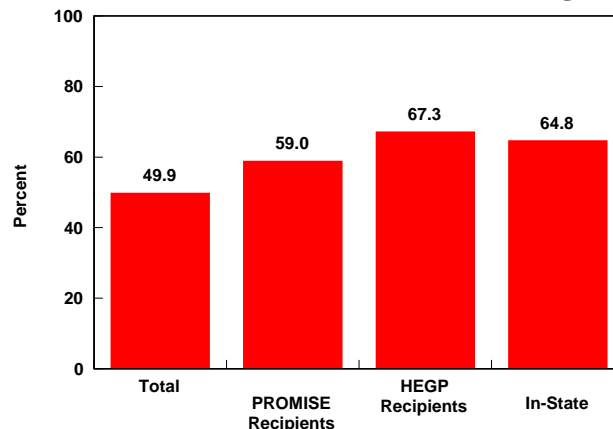
The enrollment status of graduates may affect both work participation and wages in West Virginia. For instance, graduates that have enrolled in graduate school in the state might be less likely to work in the state because of the increased time required by advanced programs. This impact, however, would be balanced by the fact that graduates attending graduate school in the state will have a higher probability of working in the state simply by virtue of the fact that they likely live in the state (as opposed to graduates attending graduate school out of state, for instance).

Further, it is likely that students enrolled in graduate school will earn lower wages than similar graduates not enrolled. That reflects the fact that students enrolled in higher education will be more likely to engage in part-time work and to work at jobs that do not yet reflect their full earnings potential.

To examine these possible impacts we compute work participation rates for graduates that were not enrolled in public higher education institutions during 2008. As Figure 5 shows, we see the same general trends as before. Work participation rates are highest for HEGP grant recipients, followed by all in-state graduates, PROMISE graduates, and all graduates.

Note also, that work participation rates are lower for all groups after we exclude those enrolled. Indeed, for PROMISE graduates, the work participation rate falls from 62.3 percent for all PROMISE graduates to 59.0 percent for PROMISE graduates that were not enrolled. For HEGP graduates, work participation rates fall from 70.4 percent for all graduates during the past four years, to 67.3 percent. This implies that work participation rates for enrolled graduates are higher than average, and indeed we find that the work participation rate for PROMISE graduates was 68.0 percent and the rate for enrolled HEGP graduates was 80.9 percent.

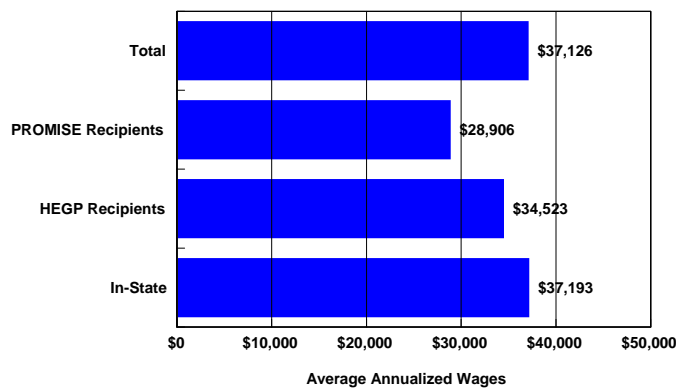
Figure 5
Work Participation In 2008 Of Graduates From West Virginia Public Higher Education Institutions During 2003-2004 To 2006-2007 Not Enrolled During 2008



We also compute annualized wages for each group, after adjusted for enrollment, as Figure 6 shows. Again, the general pattern is the same, with wages highest for in-state and all graduates, followed by wages for HEGP graduates and PROMISE graduates.

Note as well that we find that annualized wages are higher once we exclude enrolled graduates. Indeed, wages for PROMISE graduates rise from \$24,805 for all graduates to \$28,906 for graduates that were not enrolled. For HEGP graduates, wages rise from \$32,052 to \$34,523 for graduates that were not enrolled. This reflects the fact that students enrolled in graduate school are likely to engage in part-time work or in jobs that do not yet reflect their full earnings potential. Indeed, we calculate that annual wages for enrolled PROMISE graduates were \$18,727 in 2008 and \$25,188 for enrolled HEGP graduates.

Figure 6
Average Annualized Wages In 2008 Of Graduates
From West Virginia Public Higher Education
Institutions During 2003-2004 To 2006-2007 Not
Enrolled During 2008



Conclusion

Our results suggest that both PROMISE and HEGP graduates remain in the state to work after graduation at higher-than-average rates. However, PROMISE graduates are less likely to remain in the state after graduation than the average in-state graduate. In contrast, HEGP graduates are more likely to remain in the state than the average in-state graduate.

Overall, our results also suggest that PROMISE graduates earn less than HEGP graduates, although this difference is likely to shrink over time. It is important to keep in mind that the data for PROMISE graduates is limited by the fact that we have only the first two large cohorts to analyze. Thus, their wages are relatively low in part because their careers have just begun.

This study also suggests several avenues for additional research. First it would be useful to track destinations of the graduates that leave the state. This is possible for selected neighboring states, but expansion of this type of geographic coverage will contribute significantly as we seek to understand why graduates remain or leave the state. In addition, it would be instructive to track the destination of graduates that remain in the state and the industry in which they choose to work. This is possible with the existing data set and research along these lines could also focus on the match between degrees and industries in West Virginia.

Appendix I: Detailed Description Of Employment Data

The data analyzed in this study come from the matching of demographic information on graduates from West Virginia institutions of higher education (compiled by the HEPC³) with employment records maintained by Workforce West Virginia and the federal government. Graduates reflect the highest degree earned at the time of measurement (during the 1996-1997 to 2006-2007 period).

The bulk of the employment data used is gathered from West Virginia unemployment compensation records. This is a well-known dataset which measures employment by place of work. It covers jobs and wages reported by firms participating in the West Virginia Unemployment Compensation system. As a general rule, any firm which employs one or more workers for some part of a day in at least 20 different weeks of a calendar year is required to contribute to the state's unemployment insurance system. Major exceptions are railroad companies and the federal government, which contribute to separate systems. The self-employed, student workers, most church workers, and unpaid family workers are also generally not covered.

We include civilian federal government employment and wages through the Federal Employment Data Exchange System at the Jacob France Institute at the University of Baltimore. The Jacob France Institute facilitates the matching of graduates with civilian government employment. **The analyzed data in this report do not include U.S. Postal Service workers.**

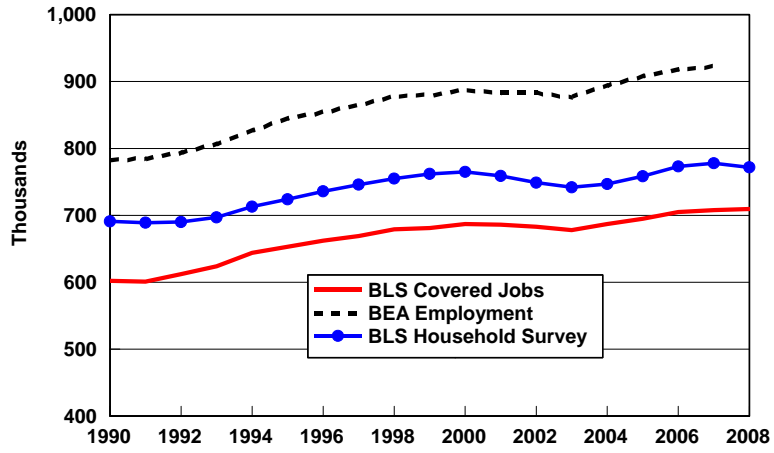
Covered employment counts 709,575 jobs at establishments in West Virginia in 2008.⁴ As Figure 7 shows, this measure of employment is lower than two other major measures of employment: employment measured by the U.S. Bureau of Economic Analysis (BEA) and employment measured by the U.S. Bureau of Labor Statistics (BLS) household survey. Differences arise because of the treatment of the self-employed, who are excluded from covered jobs but are included in the BEA measure and in the BLS household survey, as well as the exclusion of student workers, most church workers, and unpaid family members from the measure of covered jobs. Further, BLS household employment is measured by place of residence, which includes state residents working out of state.

Finally, the wages documented in the report are an important source of compensation, but they are not the only source. Data on wage income is readily available, well understood, and is useful in the evaluation of returns to work of state higher education graduates. However, wage data does not include fringe benefits provided by firms, particularly employer-paid pension and health insurance. This source of income has accounted for an increasing share of work compensation during the last 30 years. Indeed, the share of other labor income to gross earnings by place of work has risen from 6.3 percent in 1969 to 13.3 percent by 2007 for West Virginia.

³ We would like to thank Larry Ponder of the WVHEPC for providing the bulk of the data used in this study.

⁴ Federal government jobs are added in separately for completeness.

Figure 7
Three Measures Of West Virginia Employment



Appendix II: List Of Institutions, Degrees, and Areas Of Concentration

Public Higher Education Institutions

Bluefield State College
Community and Technical College at WVU Tech
Community and Technical College of Shepherd
Concord University
Fairmont State University
Eastern West Virginia Community and Technical College
Fairmont State Community and Technical College
Glenville State College
Marshall Community and Technical College
Marshall University
New River Community and Technical College
Potomac State College of West Virginia University
Shepherd University
Southern West Virginia Community & Tech College
West Liberty State College
West Virginia Northern Community College
West Virginia School of Osteopathic Medicine
West Virginia State Community and Technical
West Virginia State University
West Virginia University
West Virginia University Institute of Technology
West Virginia University at Parkersburg

Degrees

Undergraduate Certificate
Associate's Degree
Bachelor's Degree
First Professional
Master's Degree
Post-Master's Certificate
Doctoral Degree

Areas Of Concentration And Majors

Agriculture, Agriculture Operations, and Related Sciences

Agricultural Economics
Agriculture, Agriculture Operations, and Related Sciences, Other.
Agriculture, General
Animal Sciences, General.
Aquaculture
Plant Sciences, Other.

Architecture and Related Services

Landscape Architecture

Biological and Biomedical Sciences

Anatomy
Biochemistry
Biochemistry, Biophysics and Molecular Biology, Other
Biological and Biomedical Sciences, Other.
Biology/Biological Sciences, General
Botany/Plant Biology
Exercise Physiology
Genetics, General.
Medical Microbiology and Bacteriology
Microbiological Sciences and Immunology, Other.
Pharmacology and Toxicology
Physiology, General
Reproductive Biology
Zoology/Animal Biology

Business, Management, Marketing, and Related Support Services

Accounting
Accounting Technology/Technician and Bookkeeping
Administrative Assistant and Secretarial Science, General
Business Administration and Management, General
Business Administration, Management and Operations, Other
Business, Management, Marketing, and Related Support Services, Other
Business/Commerce, General
Business/Managerial Economics
Business/Office Automation/Technology/Data Entry
Entrepreneurship/Entrepreneurial Studies
Executive Assistant/Executive Secretary
Fashion Merchandising
Finance, General
Hospitality Administration/Management, General
Hospitality Administration/Management, Other
Hotel/Motel Administration/Management
Information Resources Management/CIO Training.
Labor and Industrial Relations
Management Information Systems, General
Marketing/Marketing Management, General
Office Management and Supervision
Operations Management and Supervision
Retailing and Retail Operations.
Sales, Distribution, and Marketing Operations, General
Tourism and Travel Services Marketing

Communication, Journalism, and Related Programs

Communication Studies/Speech Communication and Rhetoric.

Communication, Journalism, and Related Programs, Other.

Journalism

Communications Technologies/Technicians and Support Services

Graphic and Printing Equipment Operator, General Production.

Printing Press Operator.

Graphic Communications, Other.

Communications Technologies/Technicians and Support Services, Other

Computer and Information Sciences and Support

Computer and Information Sciences and Support Services, Other.

Computer and Information Sciences,

Computer and Information Sciences, General.

Computer Programming, Specific Applications.

Computer Programming/Programmer, General.

Computer Science.

Information Science/Studies.

Education

Adult and Continuing Education and Teaching

Agricultural Teacher Education.

Business Teacher Education

Counselor Education/School Counseling and Guidance Services.

Curriculum and Instruction.

Early Childhood Education and Teaching.

Education, General.

Educational Administration and Supervision, Other.

Educational Leadership and Administration, General.

Educational Psychology. (Moved, Report Under 42.18 series)

Educational/Instructional Media Design.

Elementary Education and Teaching

Junior High/Intermediate/Middle School Education and Teaching

Kindergarten/Preschool Education and Teaching

Physical Education Teaching and Coaching

Reading Teacher Education

Secondary Education and Teaching

Special Education and Teaching, General

Teacher Assistant/Aide.

Teacher Education and Professional Development, Specific Levels and Methods, Other

Technical Teacher Education.

Trade and Industrial Teacher Education

Engineering

Aerospace, Aeronautical and Astronautical Engineering
Chemical Engineering.
Civil Engineering, General
Computer Engineering, General.
Computer Software Engineering.
Electrical, Electronics and Communications Engineering
Engineering Physics
Engineering Science
Engineering, General.
Engineering, Other
Environmental/Environmental Health Engineering
Industrial Engineering.
Mechanical Engineering.
Mining and Mineral Engineering
Petroleum Engineering.
Systems Engineering.

Engineering Technologies/Technicians

Aeronautical/Aerospace Engineering Technology/Technician
Architectural Drafting and Architectural CAD/CADD
Architectural Engineering Technology/Technician
Automotive Engineering Technology/Technician
Civil Engineering Technology/Technician
Computer Engineering Technology/Technician
Computer Technology/Computer Systems Technology
Drafting and Design Technology/Technician, General
Electrical, Electronic and Communications Engineering Technology/Technician
Electromechanical Technology/Electromechanical Engineering Technology
Energy Management and Systems Technology/Technician
Engineering Technologies/Technicians, Other
Engineering/Industrial Management
Environmental Engineering Technology/Environmental Technology
Industrial Production Technologies/Technicians, Other
Industrial Technology/Technician
Manufacturing Technology/Technician
Mechanical Drafting and Mechanical Drafting CAD/CADD.
Mechanical Engineering Related Technologies/Technicians, Other
Mechanical Engineering/Mechanical Technology/Technician
Mining Technology/Technician.
Occupational Safety and Health Technology/Technician
Petroleum Technology/Technician
Surveying Technology/Surveying.

English Language and Literature/Letters

Creative Writing.
English Language and Literature, General.
Speech and Rhetorical Studies.

Family and Consumer Sciences/Human Sciences

Child Care and Support Services Management.
Family and Consumer Sciences/Human Sciences, General
Housing and Human Environments, Other.

Foreign Languages, Literatures, and Linguistics

Foreign Languages and Literatures, General
French Language and Literature.
Sign Language Interpretation and Translation.

Health Professions and Related Clinical Sciences

Athletic Training/Trainer
Audiology/Audiologist and Speech-Language Pathology/Pathologist.
Clinical Laboratory Science/Medical Technology/Technologist
Clinical/Medical Laboratory Science and Allied Professions, Other
Clinical/Medical Laboratory Technician
Community Health Services/Liaison/Counseling
Cytotechnology/Cytotechnologist
Dental Clinical Sciences, General
Dental Hygiene/Hygienist
Dental Laboratory Technology/Technician
Dentistry (DDS, DMD).
Dietetics/Dietitian (RD).
Emergency Medical Technology/Technician (EMT Paramedic).
Health Information/Medical Records Technology/Technician
Health Professions and Related Clinical Sciences, Other
Health/Health Care Administration/Management
Medical Administrative/Executive Assistant and Medical Secretary
Medical Radiologic Technology/Science – Radiation Therapist
Medical Transcription/Transcriptionist
Medical/Clinical Assistant
Medicine (MD).
Nuclear Medical Technology/Technologist
Nurse/Nursing Assistant/Aide and Patient Care Assistant
Nursing, Other
Nursing/Registered Nurse (RN, ASN, BSN, MSN)
Occupational Therapy/Therapist
Osteopathic Medicine/Osteopathy (DO).
Pharmaceutics and Drug Design.

Pharmacy (PharmD [USA], PharmD or BS/BPharm [Canada])
Pharmacy Technician/Assistant
Physical Therapist Assistant
Physical Therapy/Therapist
Psychiatric/Mental Health Services Technician
Public Health, General (MPH, DPH).
Respiratory Care Therapy/Therapist
Speech-Language Pathology/Pathologist
Surgical Technology/Technologist
Veterinary/Animal Health Technology/Technician and Veterinary Assistant
Vocational Rehabilitation Counseling/Counselor

History

History, General

Legal Professions and Studies

Law (LL.B., J.D.).
Legal Administrative Assistant/Secretary.
Legal Assistant/Paralegal.
Legal Professions and Studies, Other.

Liberal Arts and Sciences, General Studies and Humanities

General Studies
Humanities/Humanistic Studies.
Liberal Arts and Sciences, General Studies and Humanities, Other
Liberal Arts and Sciences/Liberal Studies

Library Science

Library Science/Librarianship

Mathematics and Statistics

Mathematics, General.
Statistics, General

Mechanic and Repair Technologies/Technicians

Avionics Maintenance Technology/Technician
Heating, Ventilation, AC and Refrigeration Maintenance Technology (HAC(R), HVAC(R)).
Heavy/Industrial Equipment Maintenance Technologies, Other
Mechanic and Repair Technologies/Technicians, Other

Multi/Interdisciplinary Studies

Biological and Physical Sciences
Gerontology
Multi-/Interdisciplinary Studies, Other
Science, Technology and Society
Systems Science and Theory

Natural Resources and Conservation

Environmental Studies.

Forest Management/Forest Resources Management.
Forest Sciences and Biology.
Forest Technology/Technician.
Forestry, General.
Natural Resource Economics.
Natural Resources Management and Policy, Other.
Wildlife and Wildlands Science and Management.
Wood Science and Wood Products/Pulp and Paper Technology.

Parks, Recreation, Leisure and Fitness Studies

Health and Physical Education, General
Kinesiology and Exercise Science
Parks, Recreation and Leisure Facilities Management
Parks, Recreation and Leisure Studies

Personal and Culinary Services

Culinary Arts/Chef Training.
Food Preparation/Professional Cooking/Kitchen Assistant.
Institutional Food Workers
Restaurant, Culinary, and Catering Management/Manager

Philosophy and Religious Studies

Philosophy

Physical Sciences

Chemistry, General.
Geology/Earth Science, General
Physical Sciences.
Physics, General.

Precision Production

Machine Shop Technology/Assistant
Welding Technology/Welder
Precision Metal Working, Other

Psychology

Counseling Psychology
Educational Psychology
Psychology, General
School Psychology

Public Administration and Social Service Prof

Community Organization and Advocacy
Public Administration
Social Work

Sciences Technologies/Technicians

Chemical Technology/Technician
Science Technologies/Technicians, Other

Security and Protective Services

Corrections
Criminal Justice/Police Science
Criminal Justice/Safety Studies
Criminalistics and Criminal Science
Fire Protection and Safety Technology/Technician
Forensic Science and Technology
Security and Protective Services, Other

Social Sciences

Economics, General
Geography
International Relations and Affairs
Political Science and Government, General.
Social Sciences, General.
Social Sciences, Other.
Sociology

Visual and Performing Arts

Art/Art Studies, General
Commercial and Advertising Art
Design and Visual Communications, General
Drama and Dramatics/Theatre Arts, General
Drawing
Graphic Design
Interior Design
Music, General
Visual and Performing Arts, General
Visual and Performing Arts, Other