

Career and College Readiness

Rustin High School
West Chester Area School District

Pick a
College

Pick a major
based on
what the
college offers

Pick a career
based on
what the
college major
leads to

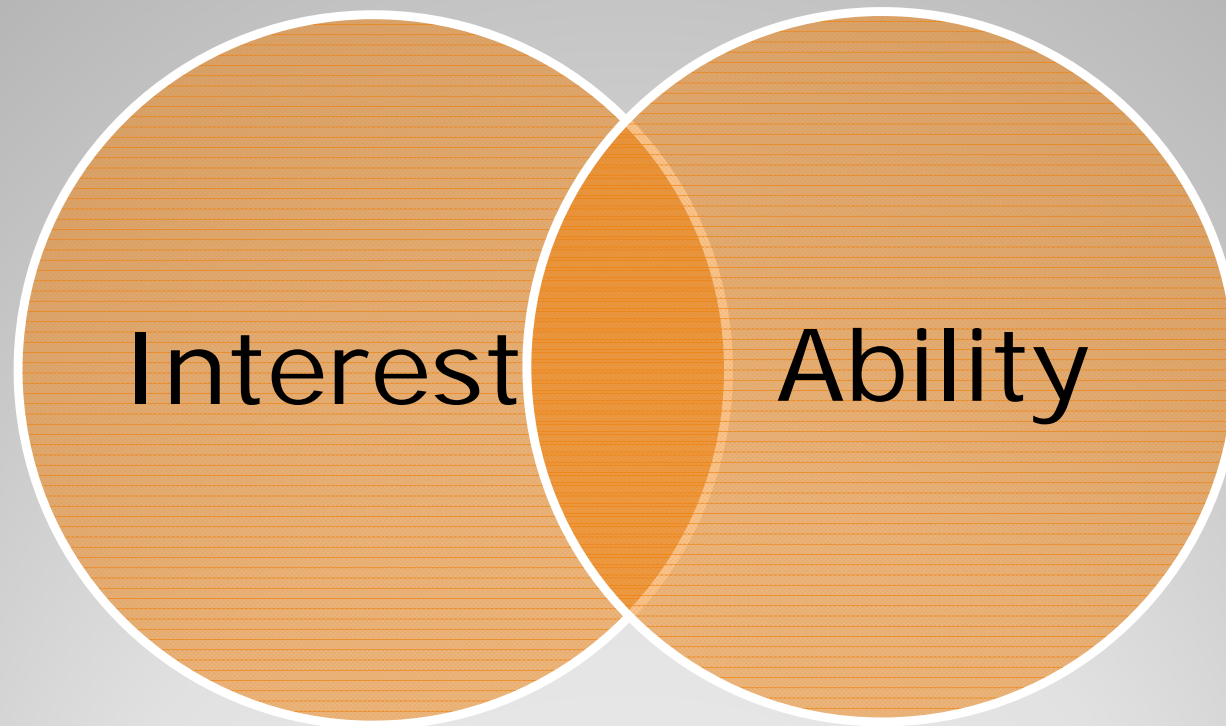
Historic Path of College Student

Pick a
Career

Find out
what college
major you
need

Find schools
that have
that major

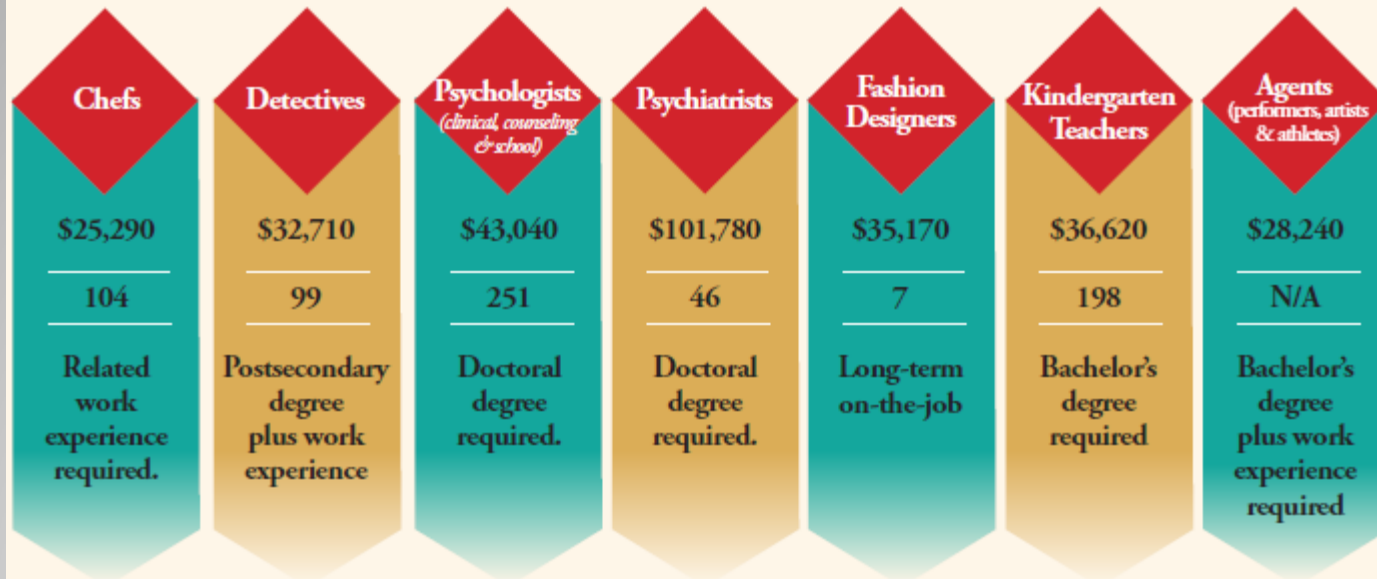
A Better Approach



Identify Potential Career Options



Average Incomes & Total Annual Openings



Source: CWIA, 2012-22 Pennsylvania Occupational Employment Projections & Occupational Employment Statistics Survey (May 2013, Pennsylvania)

All of these occupations have a few things in common: only the highlights or most glamorized parts of the jobs are shown on TV and movies, and the amount of new people hired in these jobs tends to be small, making them very difficult and competitive to break into.

Source: <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=809063&mode=2>

- Job Outlook
 - What percentage are the number of jobs in this profession increasing or decreasing?
- Number of Jobs in the profession
 - Employment change → Number of new jobs
- Entry Level Education
- Pay
- What they do
- Work Environment
- Similar Occupations?
- Contacts for addition information (Professional Organizations)

Researching Careers

A Look at the Current Job Market

United States

Source: <http://www.careeronestop.com/>



Post-Secondary Training or Associate's Degree

Rank	Occupation	Employment		Percent Change	Earnings	Typical Education
		2014	2024			
2	Occupational Therapy Assistants	33,000	47,100	43%	\$\$\$	Associate's degree
3	Physical Therapist Assistants	78,700	110,700	41%	\$\$\$	Associate's degree
23	Web Developers	148,500	188,000	27%	\$\$\$	Associate's degree
24	Diagnostic Medical Sonographers	60,700	76,700	26%	\$\$\$	Associate's degree
37	Cardiovascular Technologists and Technicians	52,000	63,500	22%	\$\$\$	Associate's degree
54	Dental Hygienists	200,500	237,900	19%	\$\$\$	Associate's degree
65	Veterinary Technologists and Technicians	95,600	113,600	19%	\$\$	Associate's degree
75	Medical and Clinical Laboratory Technicians	163,400	192,400	18%	\$\$\$	Associate's degree
112	Radiation Therapists	16,600	18,900	14%	\$\$\$	Associate's degree
121	Dietetic Technicians	29,300	33,200	13%	\$\$	Associate's degree

Bachelor's Degree

Rank	Occupation	Employment		Percent Change	Earnings	Typical Education
		2014	2024			
12	Operations Research Analysts	91,300	118,900	30%	\$ \$ \$ \$	Bachelor's degree
13	Personal Financial Advisors	249,400	323,200	30%	\$ \$ \$ \$	Bachelor's degree
16	Cartographers and Photogrammetrists	12,300	15,900	29%	\$ \$ \$ \$	Bachelor's degree
18	Interpreters and Translators	61,000	78,500	29%	\$ \$ \$	Bachelor's degree
19	Forensic Science Technicians	14,400	18,200	27%	\$ \$ \$	Bachelor's degree
33	Biomedical Engineers	22,100	27,200	23%	\$ \$ \$ \$	Bachelor's degree
41	Substance Abuse and Behavioral Disorder Counselors	94,900	116,200	22%	\$ \$ \$	Bachelor's degree
43	Athletic Trainers	25,400	30,800	21%	\$ \$ \$	Bachelor's degree
44	Computer Systems Analysts	567,800	686,300	21%	\$ \$ \$ \$	Bachelor's degree
60	Market Research Analysts and Marketing Specialists	495,500	587,800	19%	\$ \$ \$ \$	Bachelor's degree

Master's Degree or Higher

Rank	Occupation	Employment		Percent Change	Earnings	Typical Education
		2014	2024			
7	Nurse Practitioners	126,900	171,700	35%	\$ \$ \$ \$	Master's degree
8	Physical Therapists	210,900	282,700	34%	\$ \$ \$ \$	Doctoral or professional degree
9	Statisticians	30,000	40,100	34%	\$ \$ \$ \$	Master's degree
14	Physician Assistants	94,400	123,200	30%	\$ \$ \$ \$	Master's degree
15	Audiologists	13,200	16,900	29%	\$ \$ \$ \$	Doctoral or professional degree
17	Genetic Counselors	2,400	3,100	29%	\$ \$ \$ \$	Master's degree
21	Occupational Therapists	114,600	145,100	27%	\$ \$ \$ \$	Master's degree
22	Optometrists	40,600	51,600	27%	\$ \$ \$ \$	Doctoral or professional degree
26	Nurse Midwives	5,300	6,600	25%	\$ \$ \$ \$	Master's degree
34	Orthotists and Prosthetists	8,300	10,100	23%	\$ \$ \$ \$	Master's degree

A Look at the Current Job Market

Chester County

What is an HPO?

High Priority Occupations (HPOs) are job categories that:

- are in demand by employers
- have higher skill needs
- provide family sustaining wages

(Occupations that offer advancement opportunities or have visible “career ladders” will be considered as well)

High Priority Occupations

Source: <http://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>

2016 High Priority Occupations for Chester County Workforce Development Area

SOC Code	SOC Title	Educational Attainment	Wages (2015)			Employment			
			Entry Level	Annual Average	Exper. Level	Estimated 2012	Projected 2022	Percent Change	Annual Openings
15-1152	Computer Network Support Specialists	AD	\$49,440	\$74,750	\$87,410	590	710	20.3%	21
17-3024	Electro-Mechanical Technicians	AD	N/A	N/A	N/A	10	10	0.0%	0
17-3026	Industrial Engineering Technicians	AD	\$44,980	\$67,650	\$78,990	140	140	0.0%	3
23-2011	Paralegals & Legal Assistants	AD	\$43,630	\$59,910	\$68,050	190	220	15.8%	7
29-1126	Respiratory Therapists	AD	\$36,750	\$53,470	\$61,830	110	140	27.3%	6
29-2012	Medical & Clinical Laboratory Technicians	AD	N/A	N/A	N/A	270	300	11.1%	11
29-2021	Dental Hygienists	AD	N/A	N/A	N/A	250	310	24.0%	12
29-2031	Cardiovascular Technologists & Technicians	AD	\$40,360	\$60,200	\$70,120	30	40	33.3%	1
29-2032	Diagnostic Medical Sonographers	AD	\$59,170	\$71,360	\$77,460	30	40	33.3%	1
29-2034	Radiologic Technologists	AD	\$39,500	\$57,540	\$66,560	180	210	16.7%	5
29-2056	Veterinary Technologists & Technicians	AD	\$27,600	\$34,970	\$38,660	170	210	23.5%	6
31-2011	Occupational Therapy Assistants	AD	\$30,000	\$42,300	\$48,440	50	50	0.0%	2
31-2021	Physical Therapist Assistants	AD	\$44,610	\$62,390	\$71,290	200	220	10.0%	6

HPO's Chester County Associates Degree

Source: <http://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>

13-2071	Credit Counselors	BD	\$51,160	\$43,800	\$54,830	10	20	100.0%	0
15-1121	Computer Systems Analysts	BD	\$63,980	\$99,430	\$117,160	2,380	3,020	26.9%	101
15-1131	Computer Programmers	BD	\$63,830	\$97,480	\$114,310	1,380	1,590	15.2%	57
15-1132	Software Developers, Applications	BD	\$67,570	\$103,280	\$121,130	940	1,090	16.0%	27
15-1133	Software Developers, Systems Software	BD	\$74,280	\$102,800	\$117,060	2,360	2,810	19.1%	75
15-1142	Network & Computer Systems Administrators	BD	\$55,100	\$78,320	\$89,920	1,640	1,900	15.9%	53
17-2051	Civil Engineers	BD	\$50,880	\$83,080	\$99,170	830	1,040	25.3%	42
17-2071	Electrical Engineers	BD	\$61,300	\$85,670	\$97,850	220	250	13.6%	8
17-2072	Electronics Engineers	BD	\$65,720	\$94,540	\$108,950	250	290	16.0%	10
17-2112	Industrial Engineers	BD	\$65,000	\$89,380	\$101,570	470	510	8.5%	18
17-2141	Mechanical Engineers	BD	\$58,960	\$86,020	\$99,550	410	470	14.6%	19
19-4021	Biological Technicians	BD	\$34,170	\$45,350	\$50,940	180	230	27.8%	10
21-1011	Substance Abuse & Behavioral Disorder Counselors	BD	\$35,020	\$45,600	\$50,890	360	430	19.4%	16
21-1021	Child, Family & School Social Workers	BD	\$34,710	\$40,720	\$43,720	540	600	11.1%	18
21-1023	Mental Health & Substance Abuse Social Workers	BD	\$27,700	\$38,000	\$43,150	120	160	33.3%	7
21-1091	Health Educators	BD	\$54,750	\$73,540	\$82,940	110	120	9.1%	4
27-1024	Graphic Designers	BD	\$32,300	\$52,290	\$62,280	560	650	16.1%	23
27-2022	Coaches & Scouts	BD	\$17,920	\$30,880	\$37,360	640	710	10.9%	26

HPO's Chester County Bachelor's Degree

Source: <http://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>

2016 High Priority Occupations for Chester County Workforce Development Area

SOC Code	SOC Title	Educational Attainment	Wages (2015)			Employment			
			Entry Level	Annual Average	Exper. Level	Estimated 2012	Projected 2022	Percent Change	Annual Openings
21-1012	Educational, Guidance, School & Vocational Counselors	MD	\$44,360	\$68,250	\$80,190	430	450	4.7%	11
21-1015	Rehabilitation Counselors	MD	\$30,390	\$36,980	\$40,280	100	110	10.0%	3
21-1022	Healthcare Social Workers	MD	\$40,310	\$56,890	\$65,190	150	180	20.0%	6
29-1071	Physician Assistants	MD	\$64,510	\$93,430	\$107,890	140	150	7.1%	4
29-1127	Speech-Language Pathologists	MD	\$54,340	\$70,900	\$79,180	140	160	14.3%	4
29-1171	Nurse Practitioners	MD	\$80,170	\$108,220	\$122,250	70	90	28.6%	3

HPO's Chester County Master's Degree

Source: <http://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>

There is no universally agreed-upon definition of STEM. Experts generally do agree, however, that STEM workers use their knowledge of science, technology, engineering, or math to try to understand how the world works and to solve problems. Their work often involves the use of computers and other tools.



STEM JOBS

Table 3: Selected STEM occupations with fast employment growth, projected 2012–22

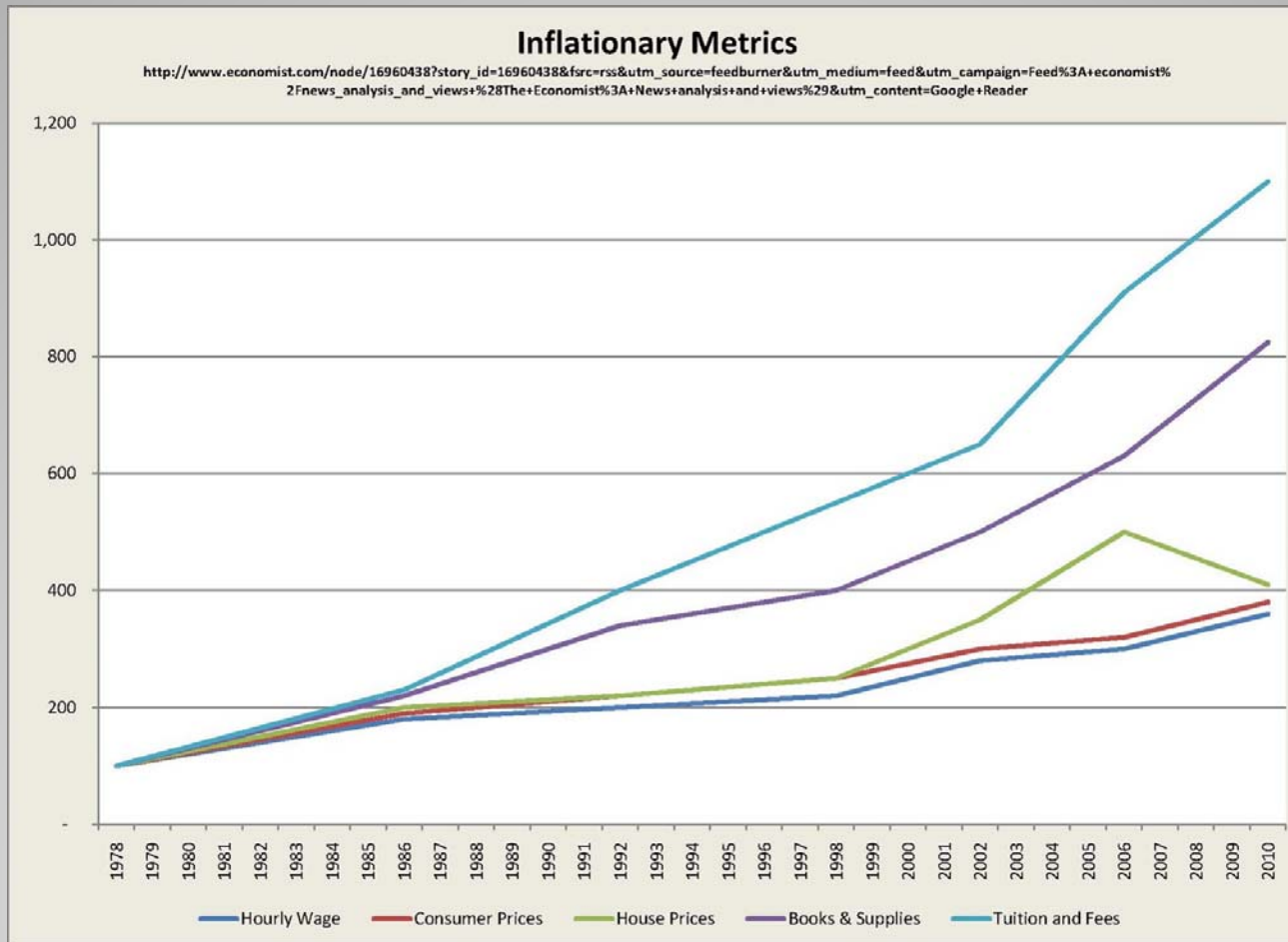
Occupation	Employment growth, projected 2012–22 (percent)	Employment		Median annual wage, May 2013	Typical entry-level education ¹
		2012	Projected 2022		
Information security analysts ²	37%	75,100	102,500	\$88,590	Bachelor's degree
Operations research analysts	27	73,200	92,700	74,630	Bachelor's degree
Statisticians	27	27,600	34,900	79,290	Master's degree
Biomedical engineers	27	19,400	24,600	88,670	Bachelor's degree
Actuaries ³	26	24,300	30,600	94,340	Bachelor's degree
Petroleum engineers	26	38,500	48,400	132,320	Bachelor's degree
Computer systems analysts	25	520,600	648,400	81,190	Bachelor's degree
Software developers, applications	23	613,000	752,900	92,660	Bachelor's degree
Mathematicians	23	3,500	4,300	102,440	Master's degree
Software developers, systems software	20	405,000	487,800	101,410	Bachelor's degree
Computer user support specialists ⁴	20	547,700	658,500	46,620	Some college, no degree
Web developers	20	141,400	169,900	63,160	Associate's degree
Civil engineers	20	272,900	326,600	80,770	Bachelor's degree
Biological science teachers, postsecondary	20	61,400	73,400	75,740	Doctoral or professional degree
Environmental science and protection technicians, including health	19	32,800	38,900	41,700	Associate's degree

Career Day 2017

- Cloud Based Solutions – 13
- IT Management – 11
- Tech Sales – 24
- Fraud Security – 19
- Supply Chain Management – 9
- Logistics – 7
- Wind/Solar Energy – 48

***Number of students signed up for each career speaker. Can be as high as 60.

College costs have risen 1,120% since 1978, rapidly outpacing the rise in the cost of food or health care.



Cost of College Education



Be an informed consumer

- How many graduates are employed in the field?
- What companies are hiring them?
- What is your retention rate?
- Are there opportunities for internships and co-ops?
- What is the total cost of the program compared to other colleges?
 - <http://www.mysmartborrowing.org>

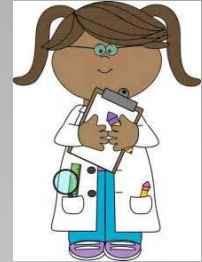
- The underemployment rate for new college graduates has risen substantially since 2000
- The underemployment rate for recent graduates increased from 34 percent in 2001 to 44 percent by 2012.
- And as of 2012, 52 percent of college grads younger than 25 who were employed held jobs that didn't require four-year degrees, according to an analysis by a Northeastern University economist.
- Philadelphia resident Ashley Newhall, 28, has a law degree and a master's in agricultural law, and she passed the bar in Pennsylvania and New Jersey. She is currently working as a Nanny, unable to find employment.

Underemployment

(Working in jobs that do not require a college degree)

Sources: <http://www.seattletimes.com/nation-world/for-some-college-graduates-nannying-is-not-such-a-bad-deal/>
<https://www.bls.gov/opub/mlr/2014/beyond-bls/pdf/new-college-degree-in-hand-now-what.pdf>

Those who choose majors that provide **technical training**, engineering or math and computers, or majors that are geared toward growing parts of the economy, such as education and health, have tended to do relatively well



Those with majors that provide **less technical and more general training**, such as leisure and hospitality, communications, the liberal arts, and even the social sciences and business, have not tended to fare particularly well in recent years.



Unemployment and Underemployment rates differ markedly across majors.

Source: https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci20-1.pdf



Networking

Twenty percent or fewer job openings are advertised. Most job openings are filled through personal referrals, direct contact with employers or employment agencies.

Source: Pennsylvania Career Guide • 23RD Edition • 2012 - 2013

Top 50 Employers in Chester County

1 VANGUARD GROUP INC	26 TREDYFFRIN EASTTOWN SCHOOL DISTR
2 QVC NETWORK INC	27 SIEMENS MEDICAL SOLUTIONS USA INC
3 COUNTY OF CHESTER	28 JOHNSON MATTHEY INC
4 FEDERAL GOVERNMENT	29 COATESVILLE AREA SCHOOL DISTRICT
5 THE CHESTER COUNTY HOSPITAL	30 PHOENIXVILLE HOSPITAL COMPANY LLC
6 GIANT FOOD STORES LLC	31 IBM CORPORATION
7 MAIN LINE HOSPITALS INC	32 OWEN J ROBERTS SCHOOL DISTRICT
8 YMCA OF GREATER BRANDYWINE VALLEY	33 AGORA CYBER CHARTER SCHOOL
9 THE DEVEREUX FOUNDATION	34 AMERISOURCE BERGEN SERVICES CORP
10 PA STATE SYSTEM OF HIGHER EDUCATION	35 THE PYLE CORPORATION
11 CERNER HEALTH SERVICES INC	36 UNIONVILLE CHADDS FORD SCHOOL DIST
12 DOWNINGTOWN AREA SCHOOL DISTRICT	37 DE LAGE LANDEN OPERATIONAL SERVICE
13 WEST CHESTER AREA SCHOOL DISTRICT	38 ADECCO USA INC
14 CHESTER COUNTY INTERMEDIATE	39 GENESIS ADMINISTRATIVE SERVICES LLC
15 WAWA INC	40 GREAT VALLEY SCHOOL DISTRICT
16 JANSSEN RESEARCH & DEVELOPMENT LLC	41 ARCELORMITTAL PLATE LLC
17 WAL-MART ASSOCIATES INC	42 BENTLEY SYSTEMS INC
18 STATE GOVERNMENT	43 COATESVILLE HOSPITAL CORPORATION
19 COMCAST CABLEVISION CORP(PA)	44 PHOENIXVILLE AREA SCHOOL DISTRICT
20 ACME MARKETS INC	45 HERR FOODS INC
21 WEGMANS FOOD MARKETS INC	46 VERTEX INC
22 UNITED PARCEL SERVICE INC	47 DEPUY ORTHOPAEDICS INC
23 HELICOPTER SUPPORT INC	48 KENDAL-CROSSLANDS COMMUNITIES
24 COMMUNICATIONS TEST DESIGN INC	49 KAOLIN MUSHROOM FARMS INC
25 GEORGE KRAPF JR & SONS INC	50 IMMACULATA UNIVERSITY

*State Government includes all state employment except Pennsylvania State University, SEPTA, System of Higher Education, PA College of Technology, and PHEAA. Center for Workforce Information & Analysis 4/12/2016



BAYARD RUSTIN HIGH SCHOOL

Home of the Golden Knights

Dr. Michael A. Marano, Principal
1100 Shiloh Road, West Chester, PA 19382

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CALENDAR

05/16/17 Tue [Career Exploration Night](#)
7:00pm - 8:00pm

05/18/17 Thu - [Algebra 1 Keystones](#)

LINKS

- › [ACT's](#)
- › [College Board \(SAT's\)](#)
- › [Education Planner](#)
- › [National Honor Society](#)
- › [Naviance Career and College Planning](#)
- › [NCAA Eligibility Center](#)
- › [SAT Prep Courses](#)

Counseling Web Site



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Career Counseling

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- › [Naviance Career and College Planning](#)
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- › [PA High Priority Occupations by county](#)
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Career Counseling Tab

➤ Learn to Earn

➤ Job Shadowing

**Opportunities for career
exploration here at Rustin**