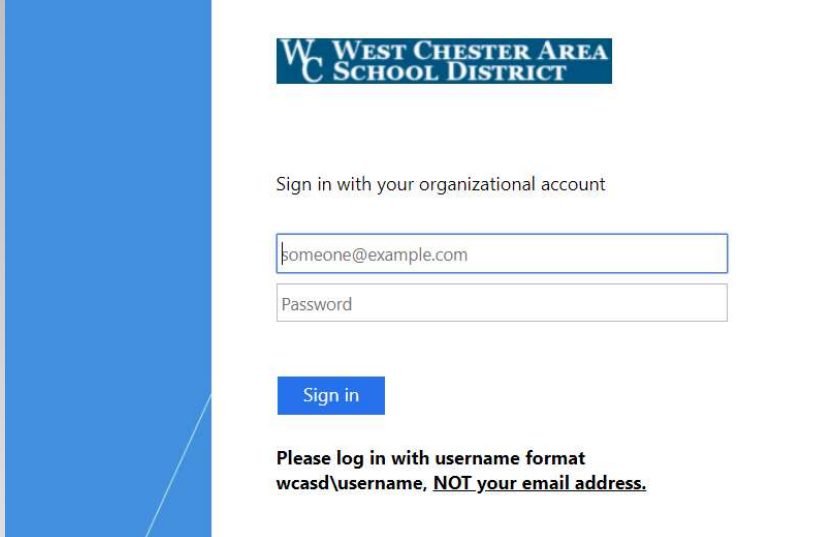


Career and College Readiness

Rustin High School
West Chester Area School District

1. Open up an internet browser
2. Go to Rustin's website
3. Scroll down to LINKS
4. Click on Naviance
5. Enter our zip code 19382
6. Click on Rustin
7. Click Login

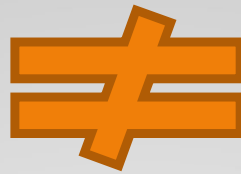
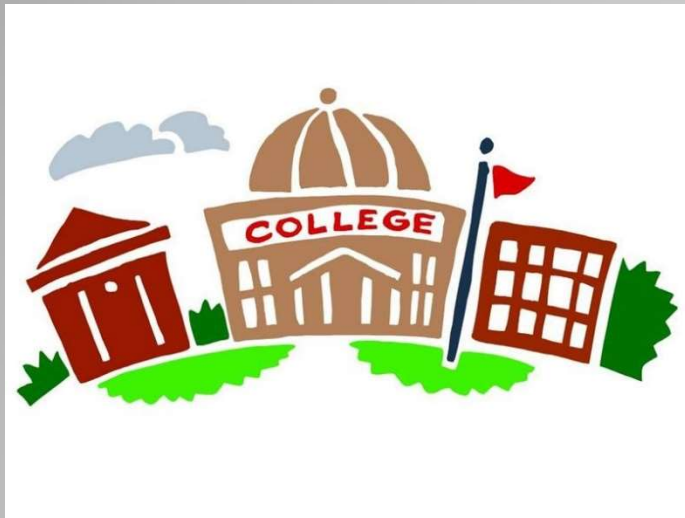


The screenshot shows the login interface for the West Chester Area School District. At the top right is the logo for West Chester Area School District. Below it, the text reads "Sign in with your organizational account". There are two input fields: the first contains the placeholder text "someone@example.com" and the second is labeled "Password". A blue "Sign in" button is positioned below the fields. At the bottom of the form, a note states: "Please log in with username format wcasd\username, NOT your email address."

User ID: wcasd\22bryant

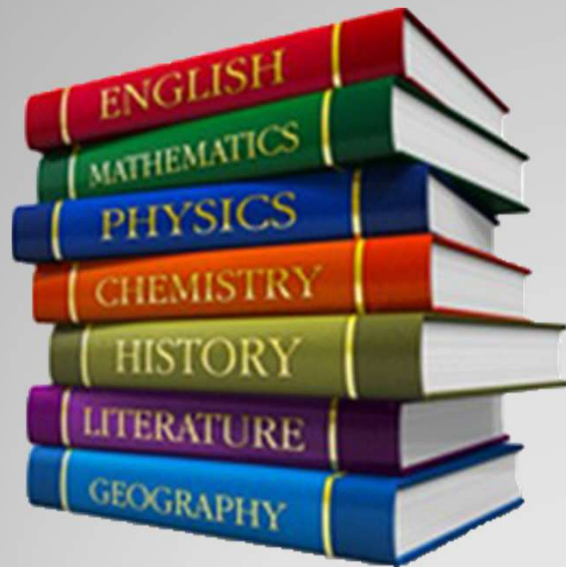
Password: Network password

Log into Naviance



The Disconnect between College and the Workforce

General Education Courses



Skills Acquisition



The need for Skill Acquisition

Upcredentialing

Jobs that once required less than a bachelor's degree are now often marketed as positions that require a college education.

Source: <https://www.usnews.com/news/articles/2014/09/09/report-employers-want-more-college-graduates-for-lower-level-jobs>

Upcredentialing

Fields effected:

- Management
- Administration
- Sales and other



Source: https://www.washingtonpost.com/opinions/catherine-rampell-the-college-degree-has-become-the-new-high-school-degree/2014/09/08/e935b68c-378a-11e4-8601-97ba88884ffd_story.html?utm_term=.2f5da393f938

Upcredentialing



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

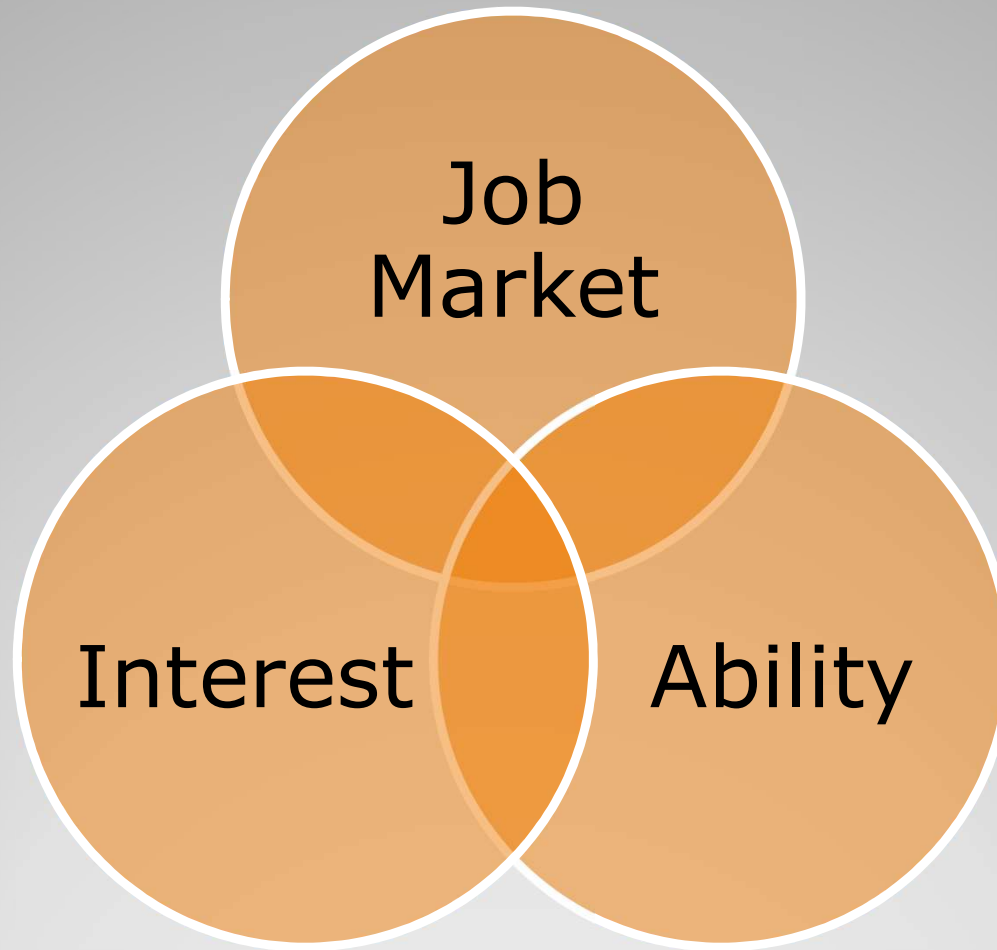
A Better Approach



Interest

Ability

Identify Potential Career Options



Identify Potential Career Options



Where do teens get exposure to different careers

What's important???

- Job Outlook
 - What percentage are the number of jobs in this profession increasing or decreasing?



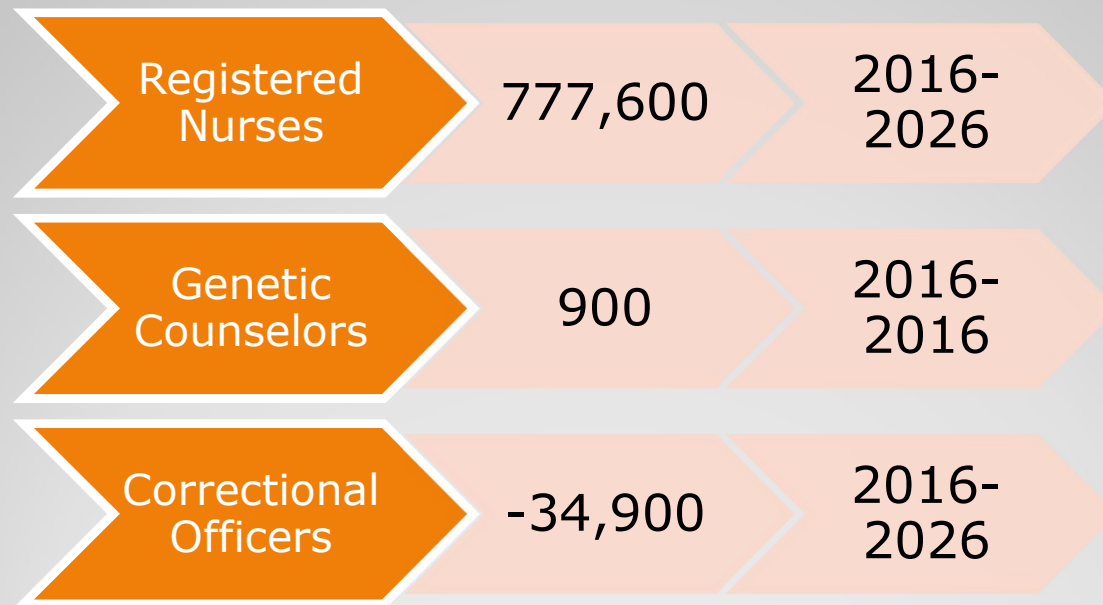
Actuaries +22%

Computer
Programmers -7%

Researching Careers

What's important???

- Number of Jobs in the profession
 - Employment change → Number of new jobs being created



Researching Careers

What's important???

➤ Entry Level Education

Doctoral or
professional
degree

Masters
Degree

Bachelor's
Degree

Associates
Degree

Certificate

Researching Careers

What's important???

- Pay
 - Entry
 - Median
 - Top 10%



Researching Careers

What's important???

➤ What they do



Researching Careers

What's important???

➤ Work Environment



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
		2018	2028			
5	Occupational therapy assistants	43,800	58,300	33%	\$\$\$	Associate's degree
11	Physical therapist assistants	98,400	125,000	27%	\$\$\$	Associate's degree
26	Respiratory therapists	134,000	162,000	21%	\$\$\$	Associate's degree
29	Diagnostic medical sonographers	72,900	87,100	20%	\$\$\$	Associate's degree
38	Veterinary technologists and technicians	109,400	130,500	19%	\$\$	Associate's degree
83	Web developers	160,500	181,400	13%	\$\$\$	Associate's degree
88	Paralegals and legal assistants	325,700	364,800	12%	\$\$\$	Associate's degree
109	Dental hygienists	219,800	243,500	11%	\$\$\$	Associate's degree
122	Magnetic resonance imaging technologists	39,400	43,700	11%	\$\$\$	Associate's degree
171	Environmental engineering technicians	17,900	19,500	9%	\$\$\$	Associate's degree

Bachelor's Degree

Rank	Occupation	Employment		Percent Change	Earnings	Typical Education
		2018	2028			
6	Information security analysts	112,300	147,700	32%	\$\$\$	Bachelor's degree
14	Operations research analysts	109,700	137,900	26%	\$\$\$	Bachelor's degree
15	Software developers, applications	944,200	1,185,700	26%	\$\$\$	Bachelor's degree
21	Substance abuse, behavioral disorder, and mental health counselors	304,500	373,100	23%	\$\$\$	Bachelor's degree
27	Actuaries	25,000	30,000	20%	\$\$\$	Bachelor's degree
30	Market research analysts and marketing specialists	681,900	821,100	20%	\$\$\$	Bachelor's degree
34	Athletic trainers	31,100	37,000	19%	\$\$\$	Bachelor's degree
35	Interpreters and translators	76,100	90,700	19%	\$\$\$	Bachelor's degree
40	Medical and health services managers	406,100	477,600	18%	\$\$\$	Bachelor's degree
43	Therapists, all other	28,100	33,100	18%	\$\$\$	Bachelor's degree

Master's Degree or Higher

Rank	Occupation	Employment		Percent Change	Earnings	Typical Education
		2018	2028			
7	Physician assistants	118,800	155,700	31%	\$\$\$	Master's degree
8	Statisticians	44,400	58,000	31%	\$\$\$	Master's degree
9	Nurse practitioners	189,100	242,400	28%	\$\$\$	Master's degree
10	Genetic counselors	3,000	3,800	27%	\$\$\$	Master's degree
12	Speech-language pathologists	153,700	195,600	27%	\$\$\$	Master's degree
13	Mathematicians	2,900	3,600	26%	\$\$\$	Master's degree
17	Health specialties teachers, postsecondary	254,800	313,900	23%	\$\$\$	Doctoral or professional degree
23	Marriage and family therapists	55,300	67,700	22%	\$\$\$	Master's degree
25	Physical therapists	247,700	301,900	22%	\$\$\$	Doctoral or professional degree
31	Nursing instructors and teachers, postsecondary	69,000	82,800	20%	\$\$\$	Doctoral or professional 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>

2019 High Priority Occupations for Chester Workforce Development Area

SOC Code	SOC Title	Educational Attainment	Wages (2018)			Employment			
			Entry Level	Annual Average	Exper. Level	Estimated 2016	Projected 2026	Percent Change	Annual Demand
15-1134	Web Developers	AD	\$54,240	\$78,700	\$90,930	370	410	10.8%	32
15-1152	Computer Network Support Specialists	AD	\$47,230	\$66,760	\$76,530	530	590	11.3%	46
17-3024	Electro-Mechanical Technicians	AD	\$56,800	\$63,700	\$67,150	N/A	N/A	N/A	N/A
17-3026	Industrial Engineering Technicians	AD	\$42,600	\$55,860	\$62,490	140	150	7.1%	13
23-2011	Paralegals & Legal Assistants	AD	\$47,950	\$60,810	\$67,240	430	510	18.6%	55
29-2012	Medical & Clinical Laboratory Technicians	AD	\$32,220	\$54,190	\$65,180	390	440	12.8%	29
29-2021	Dental Hygienists	AD	\$73,870	\$94,250	\$104,450	N/A	N/A	N/A	N/A
29-2056	Veterinary Technologists & Technicians	AD	\$35,170	\$40,560	\$43,260	450	470	4.4%	37

HPO's Chester County Associates Degree

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

2019 High Priority Occupations for Chester Workforce Development Area

SOC Code	SOC Title	Educational Attainment	Wages (2018)			Employment			
			Entry Level	Annual Average	Exper. Level	Estimated 2016	Projected 2026	Percent Change	Annual Demand
13-1023	Purchasing Agents	BD	\$46,780	\$68,440	\$79,280	680	670	-1.5%	55
13-1051	Cost Estimators	BD	\$54,420	\$73,070	\$82,390	570	650	14.0%	67
15-1121	Computer Systems Analysts	BD	\$71,660	\$105,950	\$123,100	2,090	2,330	11.5%	163
15-1131	Computer Programmers	BD	\$68,860	\$101,250	\$117,450	1,230	1,120	-8.9%	62
15-1132	Software Developers, Applications	BD	\$76,190	\$104,770	\$119,060	2,340	3,040	29.9%	239
15-1133	Software Developers, Systems Software	BD	\$73,980	\$105,110	\$120,680	2,420	2,780	14.9%	200
17-2112	Industrial Engineers	BD	\$69,840	\$97,770	\$111,730	580	650	12.1%	46
17-2141	Mechanical Engineers	BD	\$67,020	\$91,270	\$103,400	490	550	12.2%	38
21-1011	Substance Abuse & Behavioral Disorder Counselors	BD	\$32,310	\$49,930	\$58,740	290	340	17.2%	37
21-1021	Child, Family & School Social Workers	BD	\$33,120	\$49,660	\$57,930	490	540	10.2%	56
27-1024	Graphic Designers	BD	\$39,210	\$59,660	\$69,880	680	720	5.9%	68
29-1141	Registered Nurses	BD	\$57,410	\$75,420	\$84,420	4,930	5,710	15.8%	346
11-1021	General & Operations Managers	BD+	\$75,230	\$161,660	\$204,880	3,990	4,360	9.3%	373

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>

Chester County

3rd Quarter, 2019

Combined Government Ownerships

Rank	Employer	Rank	Employer
1	Vanguard Group Inc	26	ACME Markets Inc
2	QVC Network Inc	27	Phoenixville Hospital LLC
3	County of Chester	28	Tredyffrin/Easttown School District
4	Federal Government	29	Owen J Roberts School District
5	The Chester County Hospital	30	AmerisourceBergen Services Corp
6	Giant Food Stores LLC	31	The Arc of Chester County
7	Main Line Hospitals Inc	32	Brandywine Hospital
8	PA State System of Higher Education	33	Unionville Chadds Ford School District
9	YMCA of Greater Brandywine Valley	34	Coatesville Area School District
10	The Devereux Foundation	35	Herr Foods Inc
11	Downingtown Area School District	36	Cerner Corporation
12	Chester County Intermediate Unit	37	The Pyle Corporation
13	Janssen Research & Development LLC	38	Longwood Gardens Inc
14	West Chester Area School District	39	Phoenixville Area School District
15	Comcast Cablevision Corp (PA)	40	Bayada Home Health Care Inc
16	Communications Test Design Inc	41	Total Renal Care Inc
17	United Parcel Service Inc	42	George Krapf Jr & Sons Inc
18	State Government	43	Bentley Systems Inc
19	Wawa Inc	44	Great Valley School District
20	Wegmans Food Markets Inc	45	Target Corporation
21	Wal-Mart Associates Inc	46	Ricoh USA Inc
22	Johnson Matthey Inc	47	CertainTeed Corporation
23	Siemens Medical Solutions USA Inc	48	Lincoln University
24	Cerner Health Services Inc	49	Avon Grove School District
25	De Lage Landen Financial Services	50	Genesis Administrative Services LLC

Source: Quarterly Census of Employment and Wages

Center for Workforce Information & Analysis

(877) 4WF-DATA • www.workstats.dli.pa.gov • workforceinfo@pa.gov

February 2020

- Science, Technology, Engineering, Math
- Nearly 8.6 million STEM jobs in 2015
- Seven out of the ten largest STEM occupations were computer related
- Ninety-three out of 100 STEM occupations had wages above the national average

STEM JOBS

Source: <https://www.bls.gov/spotlight/2017/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future/pdf/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future.pdf>

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

Underemployment

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

- The underemployment rate for new college graduates has risen substantially since 2000
- 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.



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

Underemployment

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

Scott Dobroski, an employer trends analyst at Glassdoor

- "We definitely think there is still a **large disconnect** between what academic universities have to offer to prepare students for the real world," he says.
- **Data science jobs** are a great example of the this, Dobroski says, because they are in high demand as companies try to figure out ways to target and grow their audiences.
- "It's really interesting that, **up until a few years ago, data science wasn't even a major** or something that people could learn about, study about and learn that code in college," Dobroski says.
- Some **universities** are adding these program to their curriculum, but **the change is slow.**

Source: <https://www.npr.org/2018/07/15/629212924/the-call-in-underemployment>

Lower Underemployment

- **More Technical Training**

- Engineering
- Math
- Computers
- Education
- Health Care

Higher Underemployment

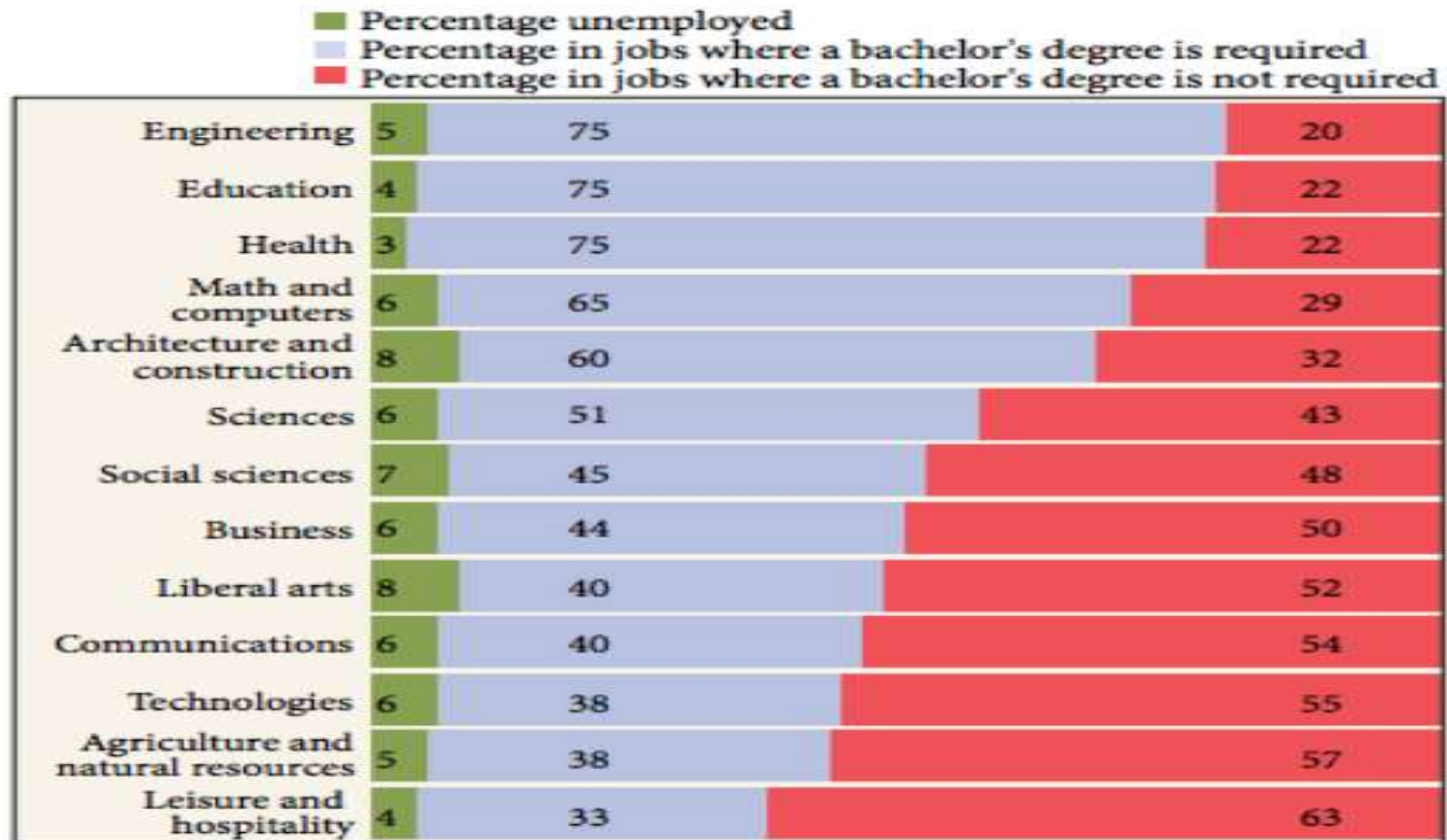
- **Less technical and more general training**

- Leisure and hospitality
- Communications
- The liberal arts
- Social sciences
- Business

Unemployment and Underemployment rates differ markedly across majors.

Chart 7

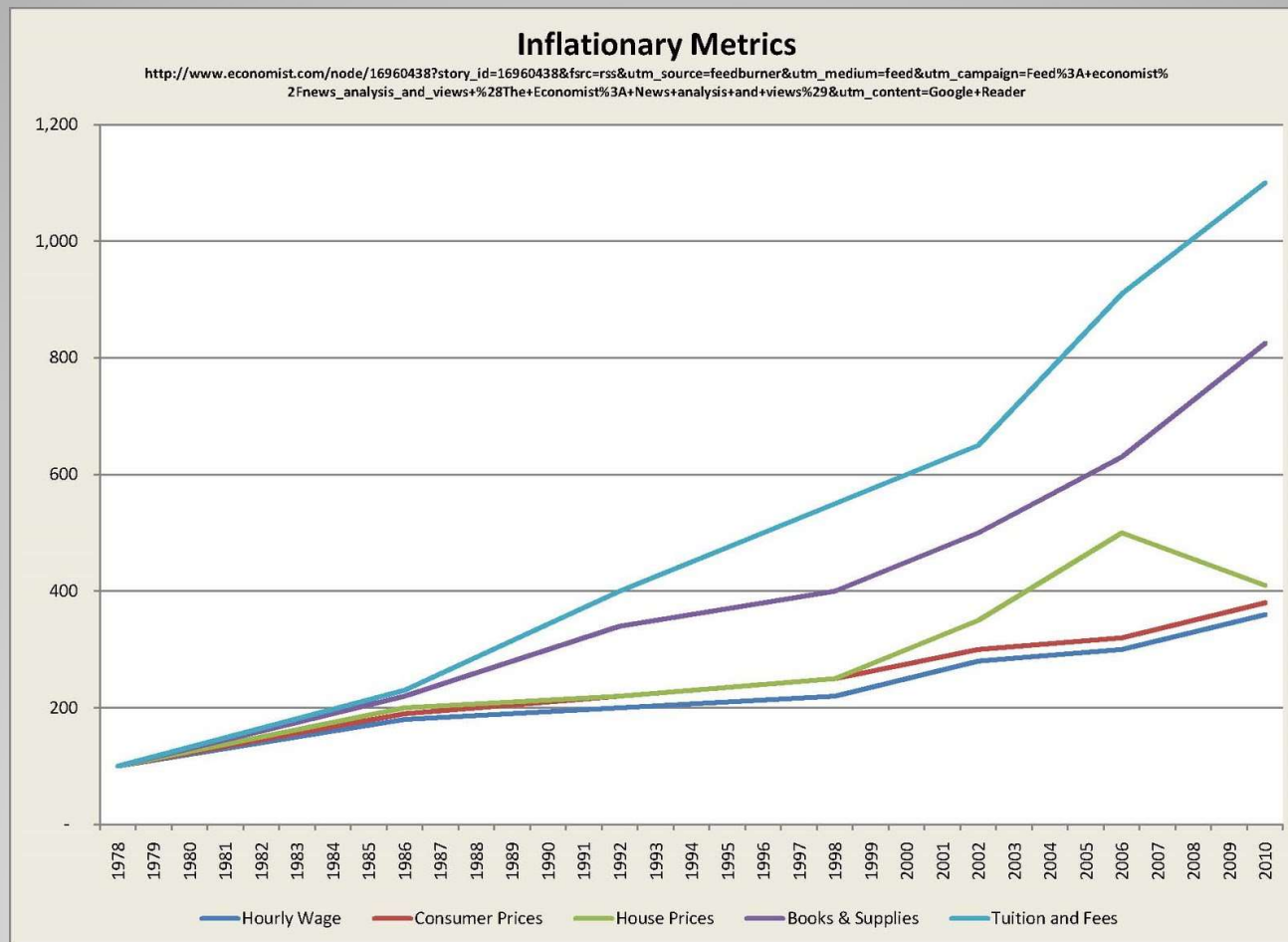
Employment Outcomes for Recent College Graduates by Major, 2009-11



Sources: U.S. Census Bureau, American Community Survey; U.S. Department of Labor, O*NET.

Notes: *Recent college graduates* are those aged 22 to 27 with a bachelor's degree or higher. All figures exclude those currently enrolled in school. Because of rounding, figures in each bar may not sum to 100.

Cost of College Education



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



At a cost of \$86 million (2009 dollars), the investment was not a small one, but it has given UNF an edge in the battle for new students.

University of North Florida, Osprey Fountains

Source: <https://thebestschools.org/features/most-amazing-college-campus-buildings/>



The Tiger Grotto is a year-round indoor beach (your very own Spring Break) with a lazy river, vortex generator, walk-in pool entry, waterfall, hot tub, sauna, and steam room. Designed to promote a healthy, active lifestyle, the Mizzou Aquatic Center is a great draw for students deciding on which school to attend.

University of Missouri-Columbia, Mizzou Aquatic Center

Source: <https://thebestschools.org/features/most-amazing-college-campus-buildings/>



LEED-Gold-certified student union with an art gallery, bowling alley, climbing wall, billiard hall, movie theater, restaurants, hotel, and banquet hall.

aren't without controversy, especially when one of them costs almost \$95 million (2011 dollars) to build.

the simple truth is the battle to attract and keep students is raging, so a few conveniences are no longer a luxury.

University of Wisconsin-Madison, Union South

Source: <https://thebestschools.org/features/most-amazing-college-campus-buildings/>

Be an informed consumer

- Colleges are a big business. They “sell” education.
- You have to look out for yourself
- As long as they are selling a “product”, they will continue to sell it.
 - A Communications major may not be relevant in today's economy, but if people are “buying” the degree, it will continue to be sold.

- 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?

