

A Brief Examination of Projected Demand for Occupations Requiring at Least a Bachelor's Degree: for WA, Spokane County & Tri Cities

D. Patrick Jones

Institute for Public Policy & Economic Analysis

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An overview of the approach

- An update to the analysis from 2020 presented to the Board of Trustees
- Supply of higher degrees not considered, as in prior analyses
- Time frame: 2025-2030
 - Economists at WA Employment Security employ a technique developed by the U.S. Bureau of Labor Statistics to make projections
 - For WA, about 560 different, specific (at 6-digit level of detail) occupations
 - Source: WA ESD
- Forecast of industries & occupations calculated every year by WA ESD's labor economists; most recent version was issued September 2022.

More detail on ESD's approach

- Variable of interest: “average annual openings” for each year over the period 2025-2030
 - This is *not* equivalent to “new jobs”
 - Demand/openings consists of 3 parts:
 - Due to forecasted industry growth (the smallest component <-> new jobs);
 - Due to replacement of those who will leave the occupation for another; and
 - Due to retirements
- ESD uses 2 methods – will focus on more conservative (“separations”)
 - This approach does not count job movements *within* an occupation, i.e. “occupational churn”

What's covered in this analysis

- All occupational openings in STEM & Healthcare that require at least a Bachelor's degree
 - STEM definition follows recent Bureau of Labor Statistics framework
- 3 geographies considered:
 - **Washington:** b/c EWU educates students for the entire state
 - **Spokane:** b/c this has been EWU's largest market
 - **Tri Cities** (Benton & Franklin Counties): b/c it is the 2nd largest metro in Eastern WA and the fastest growing in the state
- What's not counted
 - Agriculture & forestry occupations
 - Any STEM or Healthcare occupation that is "technician-based", w/ the exception of certain engineering tech occupations

Reference for making the assignment between occupation & degree: BLS Occupational Handbook

- Updated continuously

The screenshot shows the homepage of the BLS Occupational Outlook Handbook. At the top, there is a navigation bar with links for HOME, SUBJECTS, DATA TOOLS, PUBLICATIONS, ECONOMIC RELEASES, CLASSROOM, and BETA. Below this is a search bar and a 'Search Handbook' button. The main content area features a 'Home' section with a 'NEW!' announcement about 'Field of Degree' pages. A sidebar on the left lists 'OCCUPATION GROUPS' such as Architecture and Engineering, Arts and Design, and Business and Financial. The main content area includes a 'SELECT OCCUPATIONS BY' section with dropdown menus for '2019 Median Pay', 'Entry-Level Education', and 'On-the-job Training'. Below this is a 'FEATURED OCCUPATION' section for 'Dancers and Choreographers' with an image of a couple dancing and a brief description. At the bottom, there is an 'A-Z INDEX' and a 'BROWSE OCCUPATIONS' section with buttons for 'Highest Paying', 'Fastest Growing (Projected)', 'Most New Jobs (Projected)', and 'Field of Degree'.

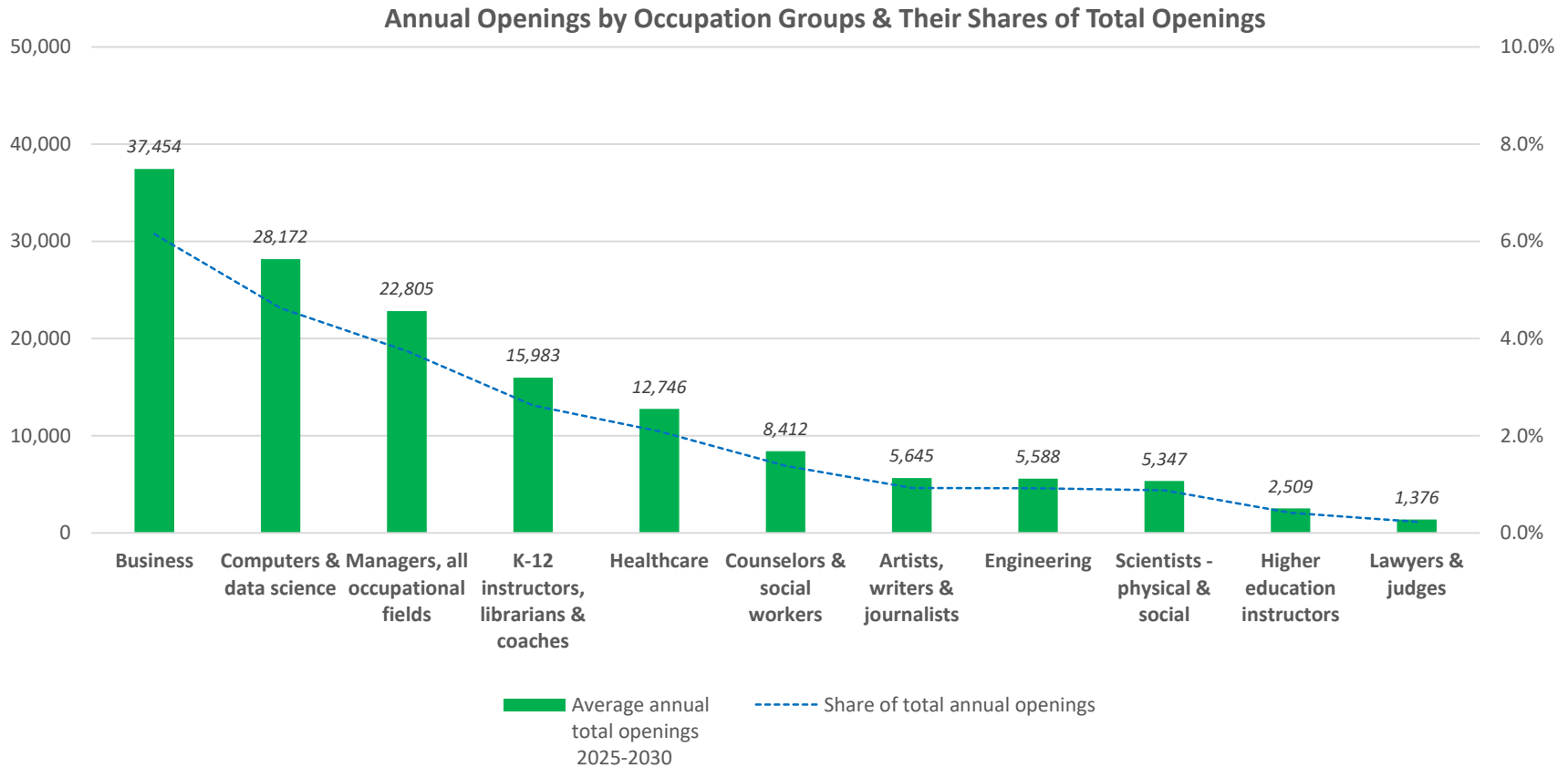
- An example for statisticians

The screenshot shows the detailed page for 'Mathematicians and Statisticians' in the BLS Occupational Outlook Handbook. The page has a navigation bar with links for HOME, SUBJECTS, DATA TOOLS, PUBLICATIONS, ECONOMIC RELEASES, CLASSROOM, and BETA. Below this is a search bar and a 'Search Handbook' button. The main content area features a 'Summary' section with a 'Quick Facts: Mathematicians and Statisticians' table. The table includes the following data:

Quick Facts: Mathematicians and Statisticians	
2019 Median Pay	\$92,030 per year \$44.25 per hour
Typical Entry-Level Education	Master's degree
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2019	45,700
Job Outlook, 2019-29	33% (Much faster than average)
Employment Change, 2019-29	14,900

Below the table, there are sections for 'What Mathematicians and Statisticians Do', 'Work Environment', 'How to Become a Mathematician or Statistician', and 'Pay'. The 'Pay' section states: 'The median annual wage for mathematicians was \$105,030 in May 2019. The median annual wage for statisticians was \$91,160 in May 2019.' The 'Job Outlook' section states: 'Overall employment of mathematicians and statisticians is projected to grow 33 percent from 2019 to 2029, much faster than the average for all occupations. Businesses will need these workers to analyze the increasing volume of digital and electronic data.'

Nearly 150,000 job annual job openings 2025-2030 will require at least a Bachelor's degree in WA

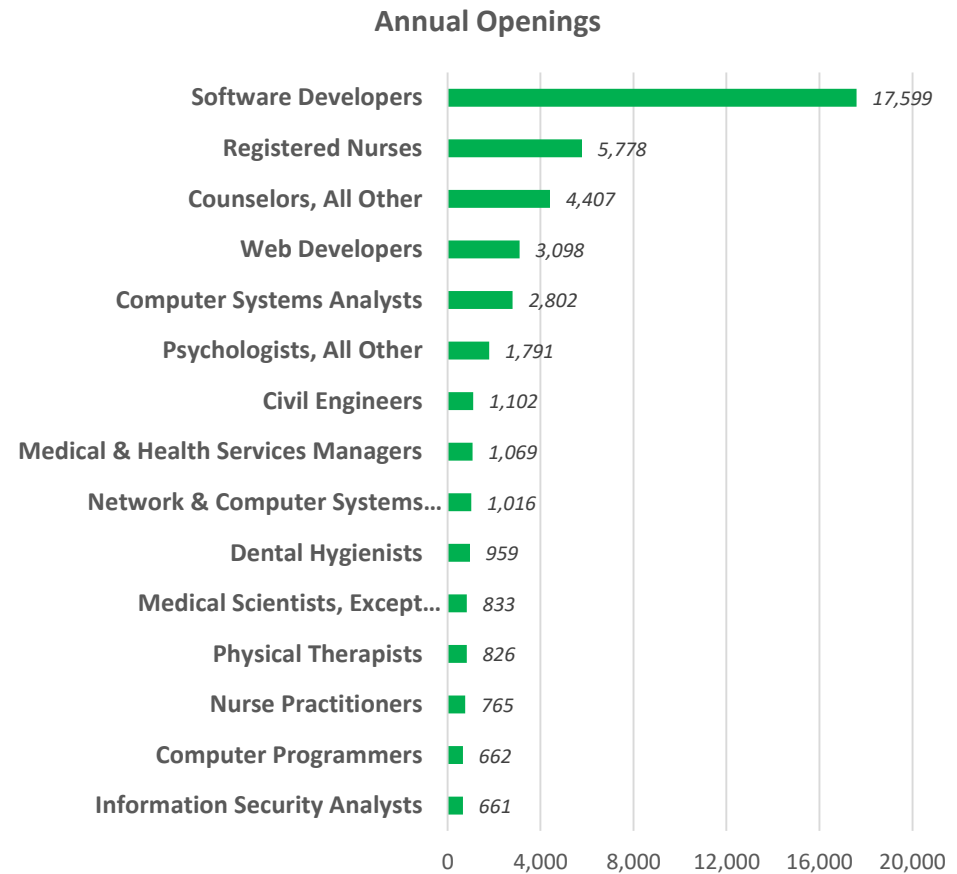


Comments to Overall View of Demand for Occupations Requiring at Least a Bachelor's Degree

- These occupations represent about 25% of projected total of 610,000.
- STEM & Healthcare-related job openings amount to at least 60,000
- This does not imply that EWU Bachelor's holders will face this many openings, since several categories require experience &/or further study
 - Managers (all)
 - Healthcare (some)
 - Counselors (most)
 - Scientists (most)
 - Higher ed instructors (all)
 - Lawyers & judges (all)
- However, even for occupations requiring an advanced degree, EWU will still serve WA needs by providing the first degree.
- A note about supply: Recent issuance of all Bachelor's degrees at WA's 16 non-profit, 4-year higher ed institutions was ~ 32,000.

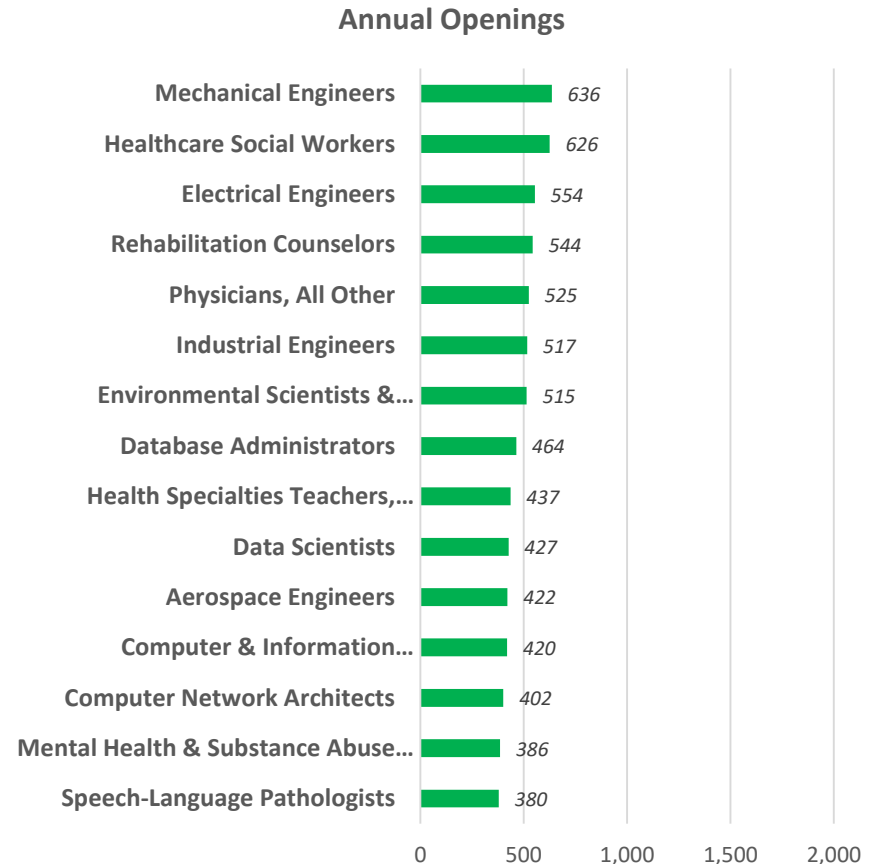
Top 15 STEM & Healthcare occupational openings, per year 2025-2030: *Washington State*

- 2 occupations clearly dominate
- Occupation count by area:
 - Healthcare: 8 (includes counselors & psychologists)
 - Computer-related: 6
- Little change from prior analyses, with exception of counselors & psychologists added
- EWU produces graduates in the majority of these occupations



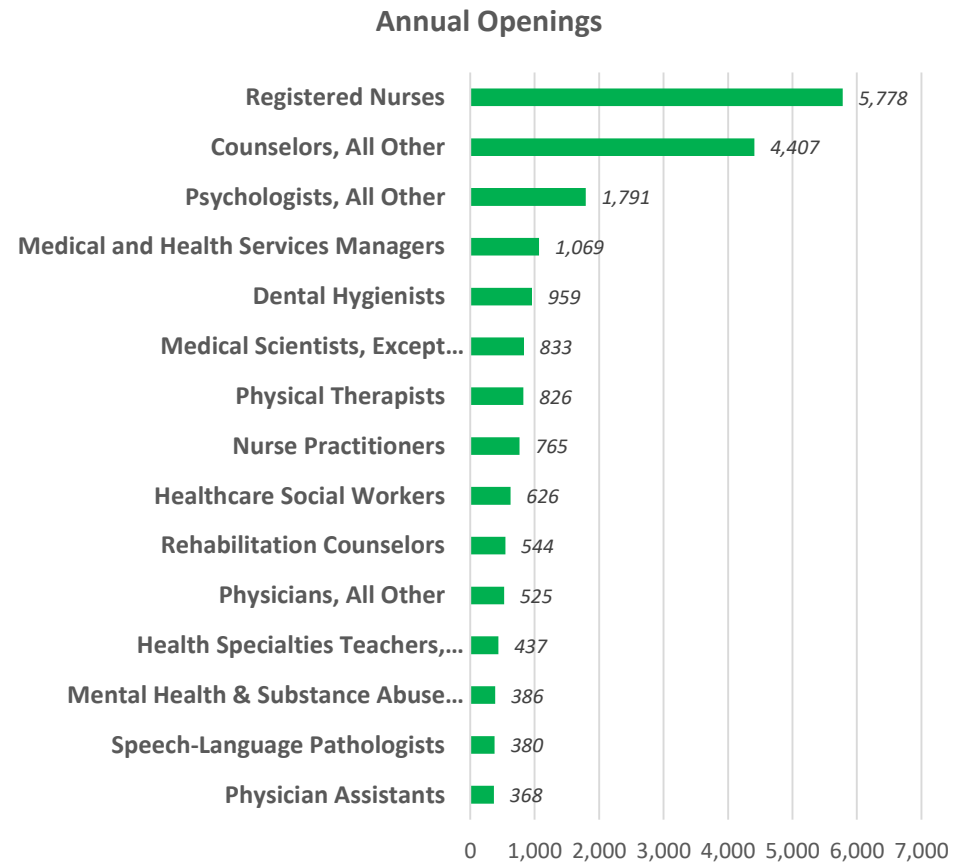
Top 16-30 STEM & Healthcare occupational openings, per year 2025-2030: *Washington State*

- Note the drop in scale from the Top 15
- Occupations by area:
 - Healthcare: 6
 - Computer-related: 4
 - Engineering: 4
- EWU produces graduates in at least half of these occupations



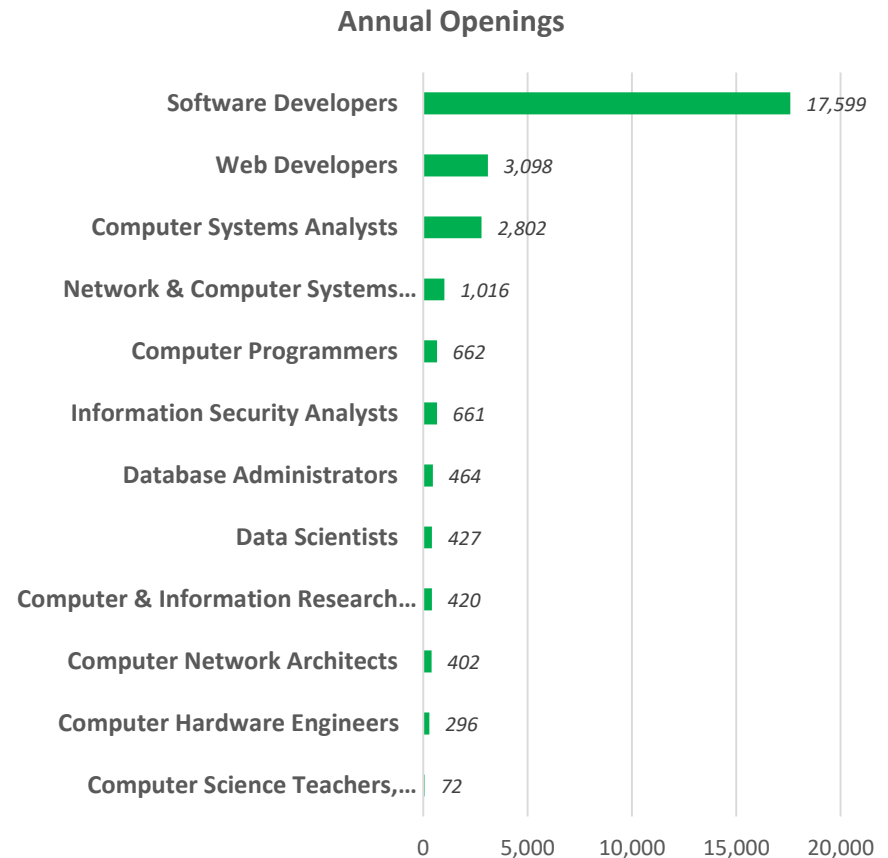
Focus on top 15 *Healthcare* occupational openings, per year, 2025-2030: Washington State

- Nurses & behavioral health specialties dominate
- Likely that the annual issuance of degrees among the 16 public & private, non-profit, 4-year WA institutions in *all* these fields is far less than the projected annual demand
- EWU produces graduates in most of these occupations



Focus on top 12 *Computer-related* occupational openings, per year, 2025-2030: Washington State

- One occupation clearly dominates
- Highly likely that the annual issuance of degrees in the first 10 fields among the 16 public & private, non-profit, 4-year WA institutions is far less than the projected annual demand
- EWU produces graduates in most of these fields



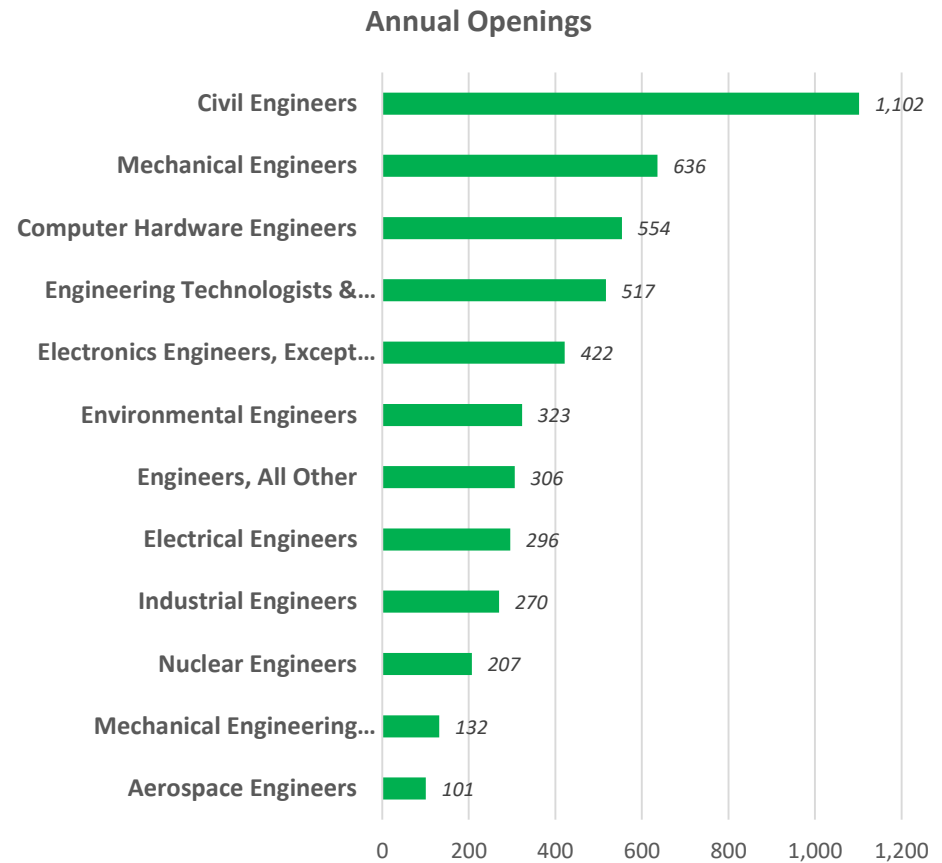
Some definitions

BLS Occupational Outlook Handbook

- **Software developers:** “design computer applications or programs. Software quality assurance analysts and testers identify problems with applications or programs and report defects.”
- **Computer systems analysts:** “...study an organization’s current computer systems and design ways to improve efficiency.”
- **Network & computer systems administrators:** “are responsible for the day-to-day operation of computer networks”
- **Computer programmers:** “write, modify, and test code and scripts that allow computer software and applications to function properly.”
- **Database administrators:** “create or organize systems to store and secure data.”
- **Computer network architects:** “design and build data communication networks, including local area networks (LANs), wide area networks (WANs), and Intranets.”

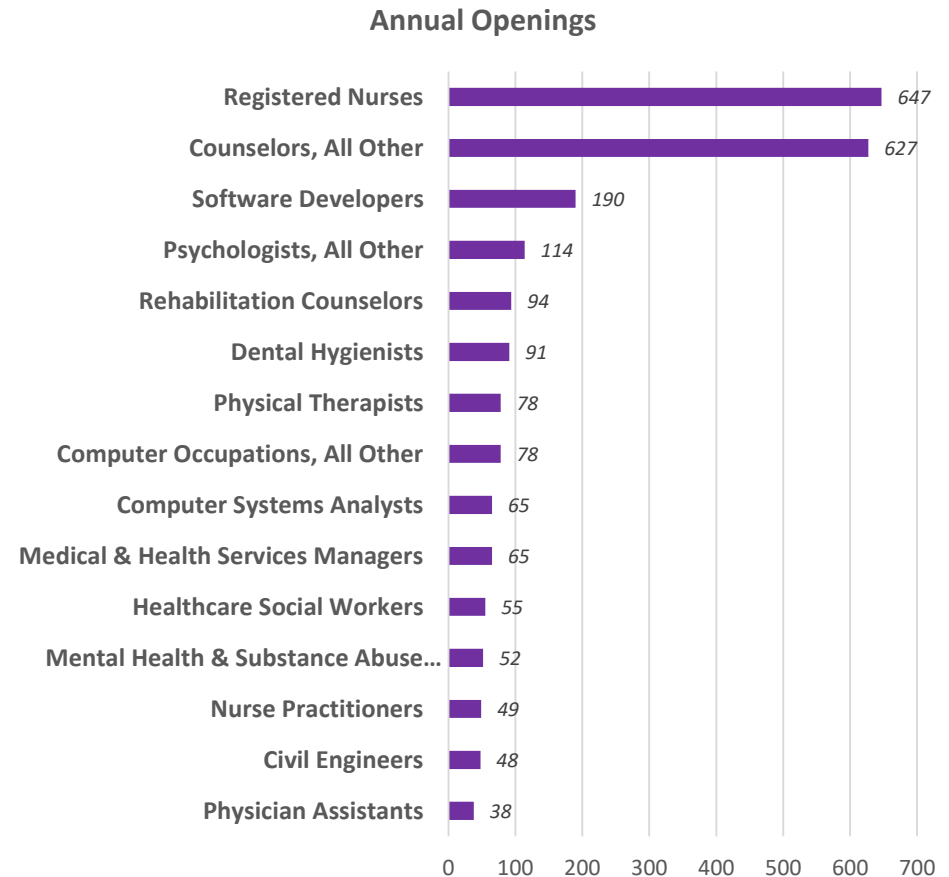
Focus on top 10 *Engineering* occupational openings, per year, 2025-2030: Washington State

- Civil engineering demand clearly dominates
- Likely that the annual issuance of degrees among the 16 public & private, non-profit, 4-year WA institutions in *most* listed fields is far less than the projected annual demand
- EWU produces degrees in 4 of the 12 occupations



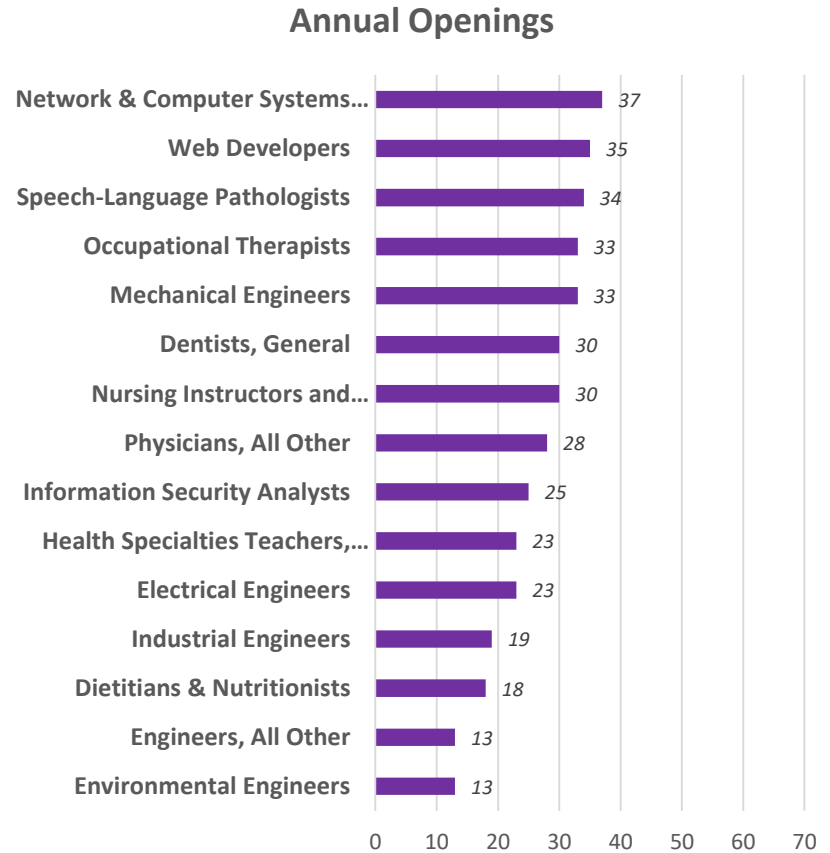
Top 15 STEM & Healthcare occupational openings, per year, 2025-2030: *Spokane County*

- 11 of top 15 projected occupations are in Healthcare - much more important here than in WA
- Nurses are at top, but behavioral health is clearly important
- Computer occupations = 3
- EWU produces degrees in ~ 10 of these occupations



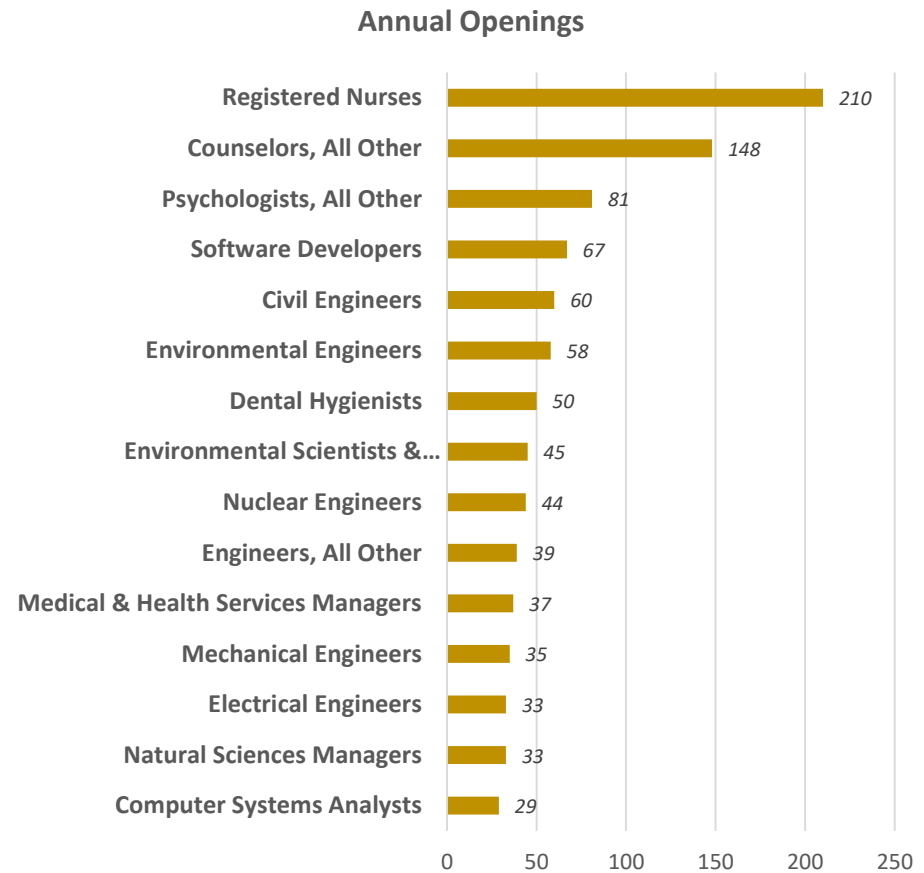
Top 16-30 STEM & Healthcare occupational openings, per year 2025-2030: *Spokane County*

- Note scale drop
- Health leads, with 7 occupations
- Engineering next, with 5 occupations
- EWU produces graduates in 9-10 of these occupations



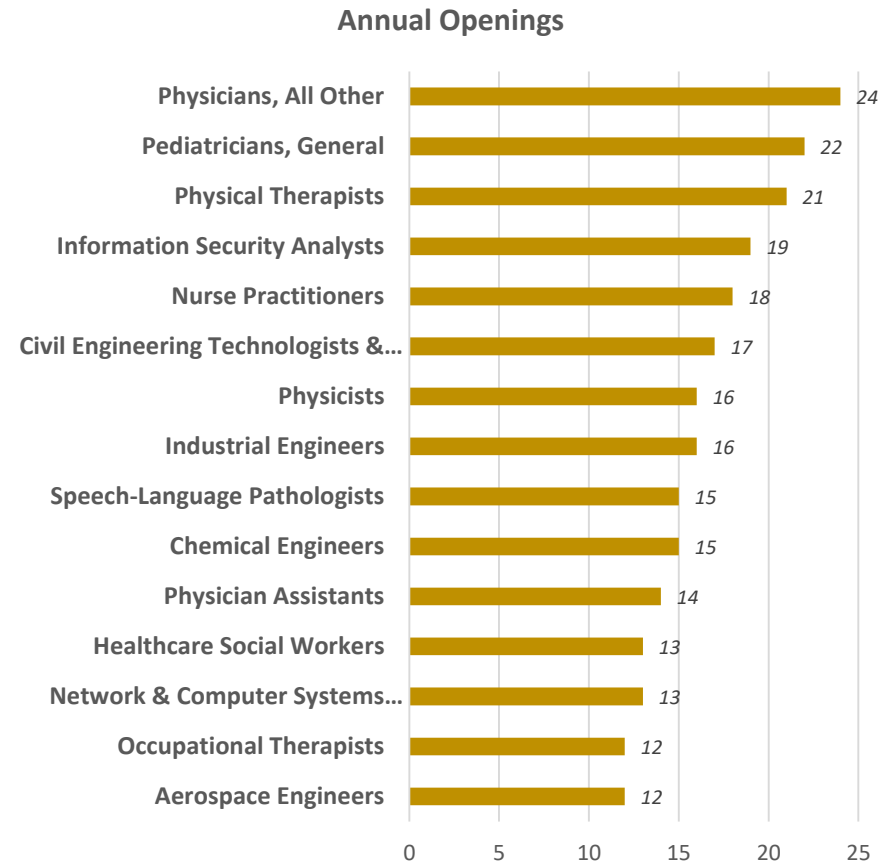
Top 15 STEM & Healthcare occupational openings, per year, 2025-2030: *Tri Cities*

- As in Spokane, nursing & behavioral health occupations lead
- Most important area is engineering, with 6 occupations; this is unique to the two counties
- EWU produces degrees in about half of the top occupations



Top 16-30 STEM & Healthcare occupational openings, per year 2025-2030: *Tri Cities*

- Note scale drop
- Healthcare occupations lead, with 8
- Engineering specialties rank next, with 4
- EWU produces degrees in ~ 6 occupations



Caveats

- No precise, current degree “production” data among the 16 WA state non-profit, 4 year higher ed institutions considered, as in prior Institute analyses.
- Similarly, no current degree “production” from 2 other higher ed types considered
 - Private, for-profit
 - WA state community colleges offering applied bachelor’s degrees
- Should also consider competitive forces outside of higher ed
 - Internal training programs in organizations
 - “Trading down” in qualifications

Still, many opportunities seem to exist for EWU, based on this assessment of WA occupational demand

- New degrees
 - Civil engineering
 - Medical & health service managers
 - Environmental engineering
- Existing degree areas that show promise for expansion
 - Nursing
 - Behavioral health
 - All computer-related
 - Dental hygiene
 - Physical therapy

THANK YOU

D. Patrick Jones, Ph.D.

Executive director, Institute for Public Policy & Economic Analysis

509.828.1246 | dpjones@ewu.edu

www.ewu.edu/policyinstitute

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