

Emerging Careers

Market and job growth in these six industries are inspiring new educational opportunities as colleges and universities expand their offerings to help learners skill up for specialized emerging careers.





New learning paths for growing markets

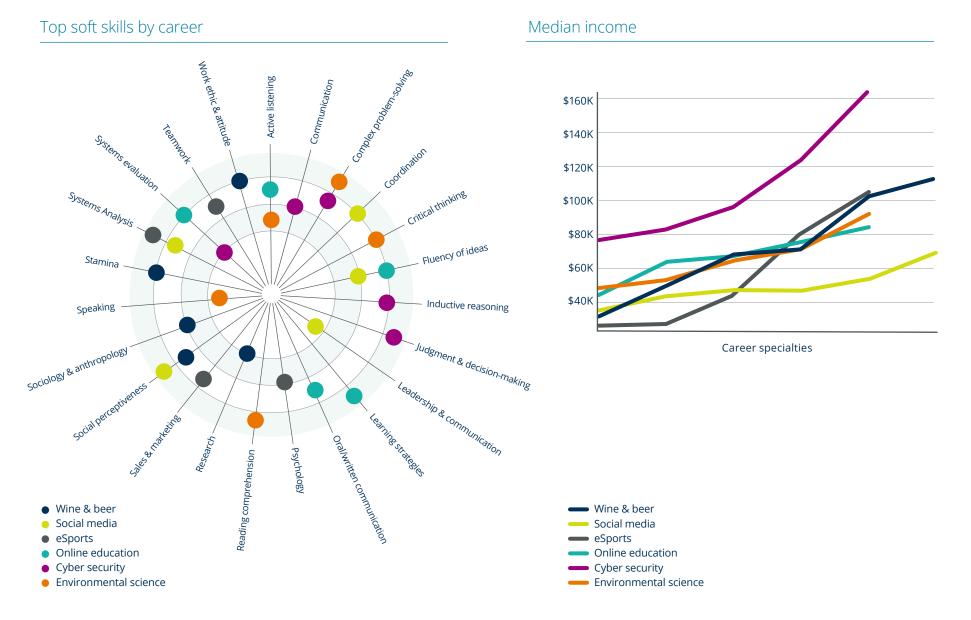
Many factors contribute to the evolution of the job market, including technological advancement, changes to infrastructure and environment, shifting cultural trends, the strength of our overall economy, and an aging population. This last factor is part of the reason that more than half of the 10 fastest growing occupations are in the field of healthcare. These are undeniably important jobs and represent clear opportunities for job seekers. Though this may change as the industry evolves post-COVID-19, the educational path for healthcare professionals is largely unchanged in recent years.

The six emerging careers presented here represent a cross section of jobs that have not only arisen from technological and cultural change, but are also transforming the higher education landscape and broadening the types of degrees being offered. We'll explore these careers in more detail based on where the industries stood in 2019, and we'll reflect on the implications of our 2020 economic challenges.

The first field is **wine & beer**, which is not a new industry, but one seeing a resurgence of interest at the craft and boutique level — and as a result, the variety of educational options is growing quickly. **Social media**, **eSports**, and **online education** industries are increasingly in need of qualified job candidates as more and more people move online to consume and interact with content. All sorts of daily activities are moving online, which also means there's never been a greater demand for experts in **cyber security** to keep our personal data safe. And finally, the need for expertise in **environmental science** is on the rise and specialized degree programs are now widely available for those interested.

Careers in Comparison

See how these six fields stack up against one another in terms of necessary skills and potential income.





Wine & beer

The wine and beer industries are not new. People have been studying the production and use of fermented beverages for thousands of years. Throughout much of that time, education came through apprenticeship and then certification. Now universities are starting to offer degrees, expanding the possibilities for job candidates in these industries.

Most who seek careers in beer and wine are driven by passion. While some start young — either in the labor-intensive lower tiers of the industry or by seeking formal training right away — others are career-changers looking to turn their hobby into a profession. Earnings that follow can vary greatly. Working for a small winery or craft brewery is not going to net as much as working for a major brand, but as health and sustainability trends move consumers toward quality over quantity, the number of boutique producers entering the market is increasing.² More new producers means more opportunities for those open to both the uncertainty and potential of a start-up.

Skills of the field

Technical skills⁶

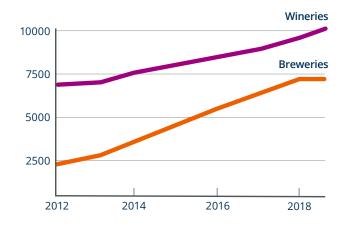
- Viticulture/enology/fermentation
- Business/sales/marketing
- Laboratory skills
- Engineering
- Chemistry

Soft skills

- Research
- Work ethic and attitude
- Social perceptiveness
- Sociology and anthropology
- Stamina

Job growth

Total number of wine & beer producers in the United States^(7, 8, 9)



Specialties(3, 4, 5)

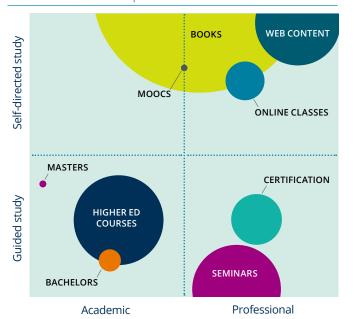


Between the field and the pour, there are many ways to specialize in the wine and beer industries, and expectations for applicants' experience and background will vary. Those willing to start at the lowest tier of wine and beer work — in the field or in the cellar — will learn a lot on the job.

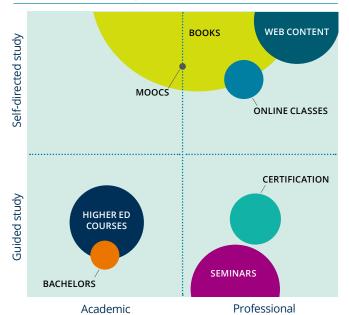
At the business and sales end, industry knowledge is crucial, but traditional degrees often suffice.

Those looking to specialize as brewmasters, enologists, or sommeliers, however, are going to need certifications and proven dedication to understanding the science, taste, and history of their product. University degrees are increasingly a way to gain the necessary academic foundation. There are numerous bachelors and a few masters options in the US, and even some PhDs for those willing to go international.

Wine education options



Beer education options



Insider advice

"My hunch is that as time goes on, the educational requirements of microbrewers in the US will increase, if for no other reason than that the demand will increase. One microbrewery owner I spoke with recently declared he will never again hire another brewer without formal training or a lot of experience."

Bill Clements, VP and Dean
College of Graduate & Continuing Studies
Norwich University



Skills of the field

Technical skills¹³

- Digital marketing
- · Technological proficiency
- · Project management
- Data analysis
- Writing

Soft skills¹⁴

- Social perceptiveness
- Coordination
- Fluency of ideas
- Systems analysis
- · Leadership & communication

Social Media

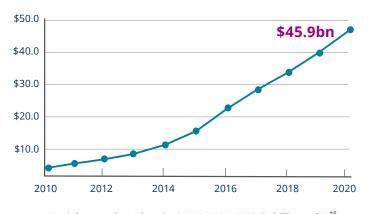
Outside of direct employment by social platforms, most social media jobs are simply contemporary marketing jobs with a focus on the fastest growing channel for marketing content. Because of this, the types of jobs available align closely to marketing jobs (manager, strategist, specialist, etc.). Smaller employers often have a single social media expert oversee the full strategy, implementation, and management of their social accounts, while larger employers may have a team of specialists, each dedicated to a subject like brand awareness or community engagement.

Then there are the content creators — the bloggers, the designers, the podcasters, and, yes, the influencers. These creatively focused individuals work directly with marketers or they may be self-employed and in control of their own brand.

Income potential for positions in the marketing world largely depends on experience, and consultants with proven successes and multiple clients may bring in even higher paychecks. Content creation earnings vary wildly, depending on the particular content niche (finance, travel, and fashion will net you more than cooking, politics, or religion), the years put in, and the strategic know-how.¹³

Market growth

Growing social platforms should lead to growing opportunities for social media jobs.



Social network market size in U.S. 2010–2020 (in billions of \$)¹⁵

Specialties(16, 17, 18)

Social media manager (\$35–\$72K)



Digital marketing manager (\$48-\$103K)



Brand ambassador (\$37-\$46K)



Community/engagement manager (\$33–\$67K)

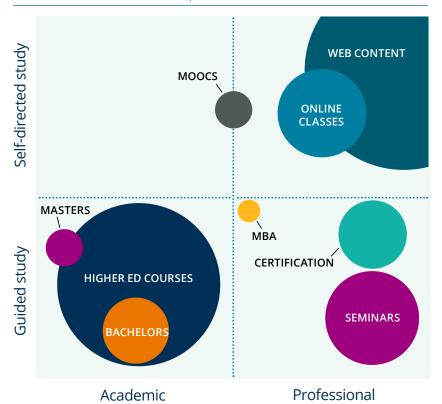


Content creator (\$25-\$200K+)

On top of traditional marketing and digital marketing degrees, there are a growing number of options with a full focus on social media. The majority of masters programs are — in the spirit of the subject — conducted online, and many bachelors programs follow the same model. One risk of targeting social media specifically is that the platforms are in constant flux, so prospective students should ensure the curriculum addresses the need to keep up with the trends. ¹⁹

For those looking to add social media expertise to a marketing- or communications-focused résumé, there are plenty of online classes and certificate programs dedicated to social media business and strategy. These are also perfect for content creators looking to boost their technical skills as they work with businesses or build their own brand.

Social media education options



Insider advice

"You may have a presence on some of the more popular networking sites, but now it's time to use them professionally. Ditch the silly pictures and stories about your weekend, and showcase your expertise by creating meaningful content that gains followers and fans and kick starts your social media career in your own time." 20

— **Michael Page** International Inc.



eSports

Gaming has been a thriving industry since the introduction of home consoles in the 1980s. The past decade has seen a rise in the integration of gaming into K–12 curricula as educators embrace its ability to support STEM learning and build soft skills like teamwork, communication, and problem solving. Now that competitive gaming (eSports) is booming as a massive worldwide industry, universities are getting involved. Athletic departments are developing players through official varsity teams and, on the academic side, institutions are starting to design curricula for those interested in general eSports careers.

Just as with traditional sports, players in the sport can earn millions of dollars, but few reach that elite level. Those willing to trade some of the glory for more stable prospects will find numerous career options in the industry. Job sectors include strategists (analysts, coaches), content creators (developers, journalists, streamers), entrepreneurs (marketing, business development), and organizers (event work, IT support, managers).²² The skills candidates need depend on the sector — many requiring a degree in that specialty — but all demand passion for games and competitions.

Skills of the field

Technical skills

- Gaming expertise
- Information technology
- Data analysis
- Digital media communication
- Business

Soft skills

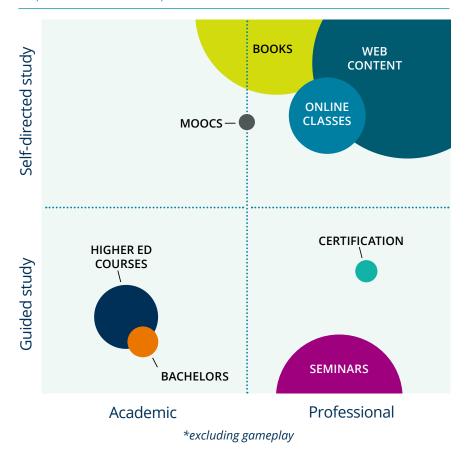
- Teamwork
- · Sales & marketing
- Psychology
- · Systems analysis

Job growth Total number of global eSports jobs 2018 (aggregated by Hitmarker 2018-2019)²³ 2019 +315% 2000 +232% 1500 1000 +166% +606% +328% 500 Social Marketing **Events** Data Software engineering media



The eSports industry is growing so rapidly— from \$906 million in 2018 to a projected \$1.65 billion by 2021 — that formal education is working hard to catch up.²⁶ For now, the best path to a career outside of gameplay is to pursue an education in one of the specialties (software engineering, event planning, marketing, business, etc.), develop general eSports expertise through gameplay and tournament involvement, and build a portfolio of work through social media or volunteer event work. However, for anyone looking to establish themselves in the field with a specialized education, there are at least 10 American universities offering undergraduate degrees in eSports — primarily focusing on eSports management — and at least a couple universities also have a masters curriculum currently in development.

eSports education options*



Insider advice

"Social media is great for networking, but nothing replaces face to face communication... Even if your budget is tight, commit to making it to as many events as possible. Politely introduce yourself to influencers who are relevant to your career goals. Don't be shy. Attend the parties. Gather business cards. Ask questions. Make friends." 27

Jason LakeFounder & CEO@compLexity



Online education

While online learning was once seen as an inferior educational option, it's quickly evolved into a reputable alternative to traditional models of education, and possibly the primary model of the future. Virtual schooling and online professional training provide learners with flexible options in a near endless array of courses that can adapt to individuals' needs. As the industry continues to evolve, there's a high demand for job candidates with expertise in designing, teaching, and managing courses specifically for an online environment.

In the world of formal education, some educators specialize in online instruction, but many are traditional classroom teachers delivering a limited number of courses virtually. In this case, institutions employ instructional designers (titles vary) to support teachers in digital course design and implementation. In the corporate world, training specialists often take on multiple roles — both developing and implementing the instruction. And serving each of these online learning models are software developers who create the learning platforms, applications, and tools that are the backbone of online education.

Skills of the field

Technical skills

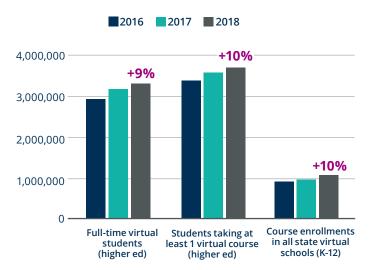
- Multimedia development and content management software
- Teaching
- Project management
- Content and curriculum development
- Graphic design

Soft skills³

- Oral/written expression
- Learning strategies
- Systems evaluation
- Fluency of ideas
- Active listening

Industry growth

Virtual school and online course enrollment 2016-2018. (28, 29, 30)



Specialties^(31,32,33)

Online teacher (\$33-\$58K)

Instructional designer/technologist/coordinator (\$45K-\$82K)

Training and development specialist (\$45K-\$86K)

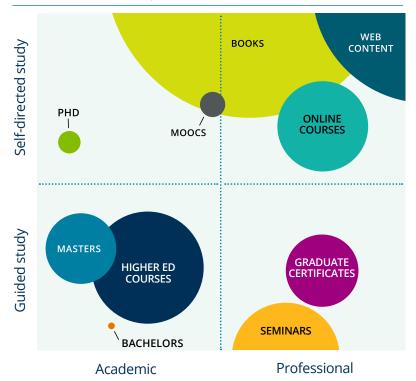
Curriculum director (\$47K-\$105K)

Educational software developer (\$58K-\$107K)

For teachers, the undergraduate path and credentialing requirements that apply to educators in a brick and mortar institution also apply to those who exclusively teach in an online environment. Very few edtech bachelors degrees exist (though education majors may choose a technology concentration). Edtech study is largely at the graduate and professional level, and many teacher, technologist, and trainer positions require a master's degree or PhD. To get started in the field while pursuing an advanced degree, online tutoring and adult education roles can give relevant, entry-level experience.

This is not to say there aren't paths for career-changers with applicable on-the-job experience, particularly at the corporate level. Those who've acquired the necessary foundations in design thinking and learning theory, and who also have strong project management skills and vast technical knowledge, will be strong candidates.

EdTech education options



Insider advice

"Be leery of a graduate degree program that teaches you how to use certain tools. I don't think software training belongs in a graduate program, especially when people in the real world learn the software on their own for free. Your education should equip you to diagnose performance problems and help people change what they do; you shouldn't pay thousands of dollars to have an instructor tell you which buttons to click unless you're in a certificate program specifically designed to teach vou a tool." 34

> — Cathy Moore eLearning and training consultant



Skills of the field

Technical skills

- Information technology
- Operating system architecture, administration, & management
- Programming
- Risk analysis & mitigation
- · Security tools

Soft skills¹

- Communication
- Teamwork
- Judgement and decision-making
- Complex problem-solving
- Inductive reasoning

Cyber security

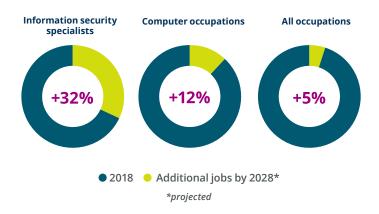
Data and digital technology are no longer self-contained industries, but vital parts of almost every industry there is. And as businesses go digital, so too do our intellectual property and personal information. Properly protecting this data is essential. Cyber security encompasses everything that relates to the protection of data and networks, and expertise in the field so in demand that qualified candidates are practically guaranteed work.

Cyber security employment can be found in a wide range of industries and focuses on a number of specialties. Information security analysts plan and carry out security measures; forensic roles deal with the aftermath of data breaches; penetration testers identify vulnerabilities to help prevent breaches; security architects establish and maintain network security; and the CIO sits at the top tier of the industry, overseeing all of this.¹

For each career pathway there's a lot of technical knowledge and many certifications to acquire to demonstrate mastery, so it's best for aspiring cyber crime fighters to research each specialty early and get on track for the role that best fits their skill set and goals.

Job growth

Projected growth for cyber security jobs vs general computer occupations and overall national job growth, United States 2018–2028.³⁵



Specialties(36, 37, 38)

Information security analyst (\$51–\$108K)



Penetration & vulnerability tester (\$58K-\$136K)

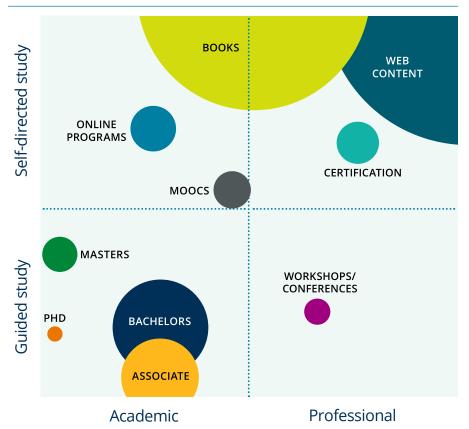


Chief information security officer (\$106K-\$223K)

Most entry-level cyber security positions require only an undergraduate degree (which degree may not matter if you have the right skills and certifications), but a graduate degree will open the door to more senior positions and quicker advancement. Increasingly, schools are offering degree programs specific to cyber security (represented in the chart above) that students can pursue rather than the more broad "computer science".

No matter what degree a candidate boasts, their prospects may be further improved by adding professional certifications to their résumé. In fact, many job postings will require that prospects come to the table with at least a foundational certification, or will ask employees to acquire further credentials for career development.³⁹

Cyber security education options



Insider advice

"Anyone interested in cybersecurity needs to get a degree, as going to college helps you to learn how to learn. No one in IT or security has all the answers, but what defines us as IT and security folks is how we figure out problems. You learn how to become a lifelong learner in college and develop new skills on the job as you fine tune your natural gifts."40

> - Charles Poff CISO, Salespoint



Environmental science

The state of the environment, the preservation of natural resources, and the health of humans and wildlife are important topics of conversation these days for government, businesses, and individuals alike. The collective desire to "go green" is growing significantly, and at the head of this movement are environmental scientists and technicians dedicated to identifying, studying, and ultimately finding solutions to today's environmental challenges.

Careers in this innovative field can follow a number of possible trajectories. Technicians have more flexible educational requirements. They may split their time between the lab and field, monitoring the environment, collecting data, and upholding regulations. ⁴¹ Scientific and engineering roles are more academically demanding, requiring rigorous interdisciplinary study — and the resulting knowledge of multiple branches of science and a focus on problem-solving will open up a variety of career opportunities. ⁴²

Whether going the technician route or the scientific route, job prospects in this field are great, and the demand for green expertise is only growing.

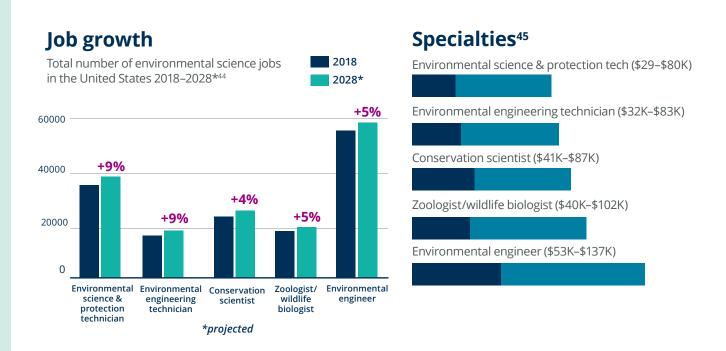
Skills of the field⁴³

Technical skills

- Biology/chemistry/physics
- Mathematics
- Law
- Administration
- Information technology

Soft skills

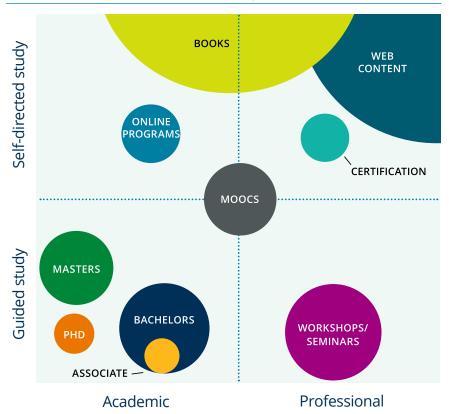
- Active listening
- Critical thinking
- Reading comprehension
- Complex problem solving
- Speaking



For the most part, anyone looking to break into the green industry is going to need a degree. At the technician or support level, an associate degree or graduate certificate may be enough to land a job. For scientific roles, a crossdisciplinary environmental science degree is great, but a specific concentration or minor will be helpful in pursuing specialized opportunities. Candidates with masters will be even more competitive. 46 If a research or academic role is the goal, a PhD could be required.

Even without an undergraduate degree in the sciences, it's still possible to pursue a postgraduate degree or certification work that may open up opportunities in the field. At any level of education, enthusiasm and a history of volunteer work in the field can be important in making a résumé stand out.⁴²

Environmental science education options



Insider advice

"Environmental people sometimes focus only on the final outcome of their work, but job seekers may be better served by paying attention to daily activities. What do you want to actually do all day? Do you want to write, organize, research, do scientific data gathering, or something else? Think in terms of verbs and you'll know a lot about whether you'll be competitive for a job." 47

Kevin Doyle

Executive Director of Career Development Yale University School of Forestry and **Environmental Studies**

In these unprecedented times...

In the wake of widespread impact to businesses from the COVID-19 pandemic, Generation Z and younger Millennials are likely to experience their first recession. 48 As workers are being divided into "essential" and "non-essential", it's natural for these generations (and all workers) to consider the opportunities and risks associated with their chosen career path.

Here are some early indications for how these six emerging careers may fare in the face of current economic challenges.

Wine & beer—Wine and beer has undoubtedly been hit the hardest by the COVID-19 pandemic. About 53% of liquor sales come from restaurants, all of which suffered major business interruption. But here's the good news. In the first month of US stay-at-home measures, off-premise craft beer sales increased 21.1%, and wine and spirits outpaced that increase with 32% and 33%, respectively.⁴⁹ One

of the major alcohol delivery platforms, Drizly, experienced a 461% boost in mobile sales. ⁵⁰ Another channel that presents a possible opportunity for future business models (if the legal loopholes seen in certain states turn into long-term changes), is the curbside pick-up and delivery of alcoholic beverages. ⁵¹

As the country anticipates further challenges to the food and beverage industry, there's a chance for those with creative business ideas to step up and rethink how wine and beer makers can leverage increased off-premise consumption to survive this and similar hardships.

Social media—Social media consumption is booming during the pandemic, with 18–34 year olds using Facebook, Instagram, and WhatsApp 40% more than typical.⁵² But what does this mean for the social media *experts* — the marketers and content creators — who leverage the platforms to share their message? On one hand, 13.9% of marketing firms expect to see job losses between spring and summer of 2020. On the other hand, businesses are looking for ways to adapt, and for many that may mean prioritizing digital channels for their marketing needs and customer interactions.



Those savvy with social media have the opportunity to take center stage and present strategies that use popular platforms for greater outreach with potential savings for their employers and clients.

eSports—On the surface it may seem that the eSports industry is invulnerable to the impact of COVID-19. Social distancing measures have led to a surge in time spent gaming at home, and the suspension of NBA, MLB, and NHL seasons has made room for television networks like ESPN2 to broadcast eSports competitions for the first time. This increased exposure is a great opportunity for eSports to grow its audience.

However, the industry has a significant event sector, and all in-person tournaments have either been canceled, postponed, or moved to an online format, resulting in financial losses from ticketing, concessions, media rights, and sponsorship.53 As with many industries, eSports will need innovative individuals to come up with alternate ways to execute largescale events when crowd restrictions are in place.

Online education—According to UNESCO, by March 24, 2020, the COVID-19 pandemic brought about school and university closures in 138 countries, affecting 1.37 billion students.⁵⁴ Teachers and students at every level of schooling have had to move to an online education model to some degree. But the transition hasn't been easy. Aside from standard "digital divide" issues involving technological access and at-home support, online learning was never meant to be an overnight transition. Strong digital curricula are born of collaboration between teachers, instructional designers, and administrators. The sudden shift bypassed that step and has demonstrated the need for increased professional development in online delivery.

However, as more instructors use online learning resources and get implementation support, we'll likely see greater willingness to integrate edtech into education systems and prepare for future applications.

Cyber security—In the field of cyber security, which already boasts a 0% unemployment rate, there's great opportunity for experts to be of significant use in the face of COVID-19. With the growing number of at-home workers and an overall increase in individuals' online presence, the risk of hackers exploiting the situation is higher than ever. Cyber security professionals are essential in mitigating this risk.

According to Nick Espinosa, an industry thought leader, maintaining security for the healthcare industry is a primary concern. "We've seen a massive rise in threats and attacks against healthcare systems, but it's worse if someone dies due to a malicious cyberattack when we have the ability to prevent that. A lot of people are involved [in a coalition to counter the latest cyber threats because they're emotionally attached to the idea of helping this critical infrastructure stay safe and online."55

Environmental science—In the short term, environmental scientists and others in the conservation industry are facing the same job insecurity as many businesses in the current financial climate. In April 2020, conservation jobs in the nonprofit sector dropped by an estimated 50% compared to their normal levels. Academic scientists face similar loss of opportunities as institutions go virtual and funding is diverted.⁵⁶

In the long term, however, there is the potential for significant research to be conducted in response to world events. Environmental scientists and engineers are being called to action, not just racing to collect atmospheric and other data pertaining to the effects of worldwide stay-at-home orders on pollution and air quality, but to identify the environmental characteristics that affect transmission of viruses.⁵⁷

Sources

¹ "Fastest growing occupations", U.S. Bureau of Labor Statistics

Wine & beer sources

- ² "State of the industry: What's to come for alcohol in 2019", Beth Newhart
- ³ "Culinary Wine Schools and Programs", Rebecca DeVaney
- ⁴ "National Beer Sales & Production Data", Brewer's Association
- ⁵ "Wines Vines Analytics", Wine Communications Group, Inc.
- ⁶ "Over 1,000 New Craft Breweries Have Opened In the Past Year", Chris Morris
- ⁷ <u>"2019 Salary Survey Report"</u>, Kerana Todorov
- 8 "Wine Jobs: An Overview of Careers in Wine", winefolly.com
- ⁹ "How Much Money Can You Make Working in a Brewery?", justbeerapp.com
- 10 "How to go pro in the beer biz", Teri Fahrendorf
- ¹¹ "See You at Wine U", Jeff Chorniak
- 12 "Back to School: 13 Places to Get a Beer Degree", Nick Hines

Social media sources

- ¹⁶ "How much money can you make blogging?", Grant Sabatier
- ¹³ "10 Modern Marketing Skills You Must Perfect", Sam Holzman
- 14 "10 Essential Skills a Social Media Manager Needs To Have on Their Resume", Jeff Bullas
- ¹⁵ "Social Networking Sites in the US Market Size 2005–2024", IBISWorld
- ¹⁷ "11 Social Media Job Titles (and What They Actually Mean)", Maxwell Gollin
- 18 glassdoor.com
- 19 "Social Media Degrees: Types, Education and Career Options", Karen Schweitzer
- ²⁰ "Eight Tips to Start Your Social Media Career", Michael Page International Inc.

eSports sources

- ²¹ "eSports in K-12 and Post-Secondary Schools", Gregory Rothwell and Michael Shaffer
- ²² "What the Research Tells Us: Digging into the Benefits of Scholastic Esports", Craig Anderson,
- Dr. Remy Cross, Je Seok Lee, Jason Reitman, Constance Steinkuehler, Minnie Wu
- ²³ "How Much Do eSports Players Make?" Brian O'Connell
- ²⁴ indeed.com
- ²⁵ <u>"2019 Esports Jobs Report"</u>, Hitmarker
- ²⁶ "As pro gaming takes off, so do esports careers", Dean Takahashi
- ²⁷ "Advice for Landing Your Esports Dream Job", Jason Lake

Online education sources

- 28 "Full-Time Virtual and Blended Schools: Enrollment, Student Characteristics, and Performance", National Education Policy Center
- ²⁹ "Keeping Pace with Digital Learning Report –
- SNAPSHOT 2019: A review of K-12 online, blended, and digital learning", Digital Learning Collaborative

- 30 "Online Enrollments Grow, but Pace Slows", Doug Lederman
- ³¹ "What Jobs Can I Get with an Educational Technology Degree?", learn.org
- ³² "Educational Software Developer Salaries", Glassdoor.com
- ³³ <u>"25-9031.01 Instructional Designers and Technologists"</u>, the National Center for O*NET Development
- ³⁴ "How to become an instructional designer", Cathy Moore

Cyber security sources

- 35 "Occupational Outlook Handbook: Information Security Analysts", Bureau of Labor Statistics, U.S. Department of Labor
- ³⁶ "Cyber security degrees & careers: How to work in cyber security", learnhowtobecome.com
- ³⁷ Payscale.com
- 38 "Cybersecurity career pathway", cyberseek.org
- ³⁹ "Best cyber security certification path for a great career", Mark Hillyard
- ⁴⁰ "Tips for those of all ages interested in pursuing a career in cybersecurity", Charles Poff

Environmental science sources

- ⁴¹ "Environmental Engineering Technicians", "Environmental Science and Protection Technicians", collegegrad.com
- ⁴² "Studying Environmental Science: What is it like and where can it take you?", Mendeley.com
- ⁴³ "19-2041.00 Environmental Scientists and Specialists, Including Health"

The National Center for O*NET Development

- ⁴⁴ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*
- ⁴⁵ <u>collegegrad.com</u>
- ⁴⁶ "What to Do With an Environmental Science Degree", Ilana Kowarski
- ⁴⁷ "How to Land Your Dream Environmental Job", idealist.org

Other sources

- 48 "How Long Do Downturns Last?", Nancy Mann Jackson
- ⁴⁹ "Nielsen: Beer Category Off-Premise Sales Up 19% for the Week Ending April 4", Justin Kendall
- ⁵⁰ "This is how America drinks now", Rebecca Jennings
- ⁵¹ "Coronavirus brings quick changes to state alcohol laws", Alex Gangitano
- 52 "Report: WhatsApp has seen a 40% increase in usage due to COVID-19 pandemic", Sarah Perez
- ⁵³ "Marketers prepare for significant job losses amid Covid-19 pandemic", Sarah Vizard
- 54 "Are Esports Stocks Immune to the COVID-19 Crisis as They Outperform the Market?", Tobias Seck
- ⁵⁵ "Growth in Distance Learning Outpaces Total Enrollment Growth", Lynn Wallis
- ⁵⁶ "COVID-19 Has United Cybersecurity Experts, But Will That Unity Survive the Pandemic?", Brian Krebs
- ⁵⁷ "80 percent of conservation careers negatively affected by COVID pandemic (commentary)", Kristi Foster
- 58 "COVID-19: Environmental engineers, scientists have important roles in stemming pandemics", Rob Jordan



>> Learn more about what you can do to prepare students with the skills they need for these or many other careers at: go.pearson.com/CareerReadiness

