Bootcamps at Community Colleges: *An Emerging Market*

32EDU's analysis of tech bootcamps delivered via partnerships between community colleges and industry providers.

About the Report

In 2022, 32EDU expanded our market leading tracking of partnership activity between higher education institutions and education technology/service providers to include bootcamps offered in conjunction with community colleges. This report explores the findings from this new data set. In addition to exploring the findings derived from this new data set, the report examines existing third-party research and leverages internal research by 32EDU to create the most robust picture to date of this rapidly expanding market.

About 32EDU

32EDU ("Thirty Two Edu") is a market research and consulting firm focused on providing advanced data and insights about post-secondary education. We combine best-in-class alternative data with higher education technology experience to give an unequalled level of insight into how companies and higher education organizations are adapting to upskill the global workforce.

Summary

Community colleges face a substantial challenge as their traditional student base is dwindling and they are now tasked with serving a very different student population with differing motivations and demands. To rise to the occasion, community colleges, like universities, have embraced alternative credentials – in fact, community colleges have a long history of embracing non-degree programming. Nevertheless, community college leaders are unsure about how competitive their programs are in the shifting labor market. Accordingly, partnerships between bootcamp providers and community colleges have grown exponentially in recent years, as these like-oriented groups join forces to meet the substantial demand for technology talent. This market is truly in an emerging phase, estimated to be worth just under $24M this year, but is projected to grow at a 62% CAGR and could surpass $100M by 2026.

Overview of the Community College Bootcamp Market

Community colleges are being confronted with a decline in 2.1M credit-seeking students from 2010 to 2030.

Enrollment in noncredit, job-focused programs is the best performing segment for community colleges.

To adapt to the changing market, partnership activity between community colleges and bootcamp providers has grown rapidly.

An estimated 4.5% of community colleges partner with a bootcamp provider.

These bootcamp relationships are estimated to be worth an average of $200K per year for the institution.

Bootcamp programs are estimated to drive 8X the revenue of other non-degree credentials for institutions.

This emerging market, now estimated to be worth just under $24M is projected to grow at a 62% CAGR through 2025.

The community college bootcamp market could surpass $100M in aggregate value by 2026.

Table of Contents

The Enrollment Situation at Community Colleges

Community colleges are facing a significant decline in their traditional target student population and noncredit programs are becoming increasingly important.

How Community Colleges Are Adapting

In an effort to better address the needs of a changing target market, community colleges are beginning to embrace bootcamp partnerships rapidly.

The Demand for Bootcamps

The market for bootcamp programs in the United States is growing rapidly and growth of these programs offered with community colleges is projected to be even faster.

The Competitive Landscape

Promineo Tech is the leading provider in terms of the number of community college partnerships, and a number of adjacent providers like edX and ed2go are also growing.

Provider Profiles

Bootcamps offered at community colleges tend to be less than half the price of bootcamps offered elsewhere in the market.

The Enrollment Situation at Community Colleges

Community colleges are facing a significant decline in their traditional target student population and noncredit programs are becoming increasingly important.

In 2020 community colleges in the United States enrolled about 6.2M students in credit-bearing programs[1]. This represents a decline of more than 23% from the peak in 2010 when community college enrollment was almost 8.1M[2]. Over that same time noncredit enrollments in job-focused programs bucked the trend and was nearly flat with about 2.3M students in both 2010 and 2020[1,3,4].

*Figure 1 – Community College Enrollment by Student Type in 2010 and 2020*

Student Type	2010 Enrollment	2020 Enrollment	Change (%)
All Credit-Seeking	8.1M	6.2M	-23%
Noncredit Job-Focused	2.3M	2.3M	0%
All Other Noncredit	2.7M	1.7M	-37%
Total	**13.1M**	**10.2M**	**-22%**

The enrollment situation with credit-seeking trends at community colleges has only worsened following the COVID-19 pandemic, as the negative trend has only accelerated[5].

These trends mean that community colleges are increasingly depending on a very different student population than has historically been the case as only 26% of the noncredit student population at community colleges is 24 years old or younger compared to 56% of credit-seeking community college students[4].

Prior to the onset of the COVID-19 pandemic, the National Center for Education Statistics projected that by 2028, credit-seeking enrollment at community colleges in the United States would be 6.1M[6]. Thus, zooming out to a broader perspective than the recent trends created by the pandemic, enrollment at community colleges is expected to be flat or negative over the coming decade.

Figure 2 – Credit-Seeking Community College Enrollment by Year in 2010, 2020, and 2030 (Millions)
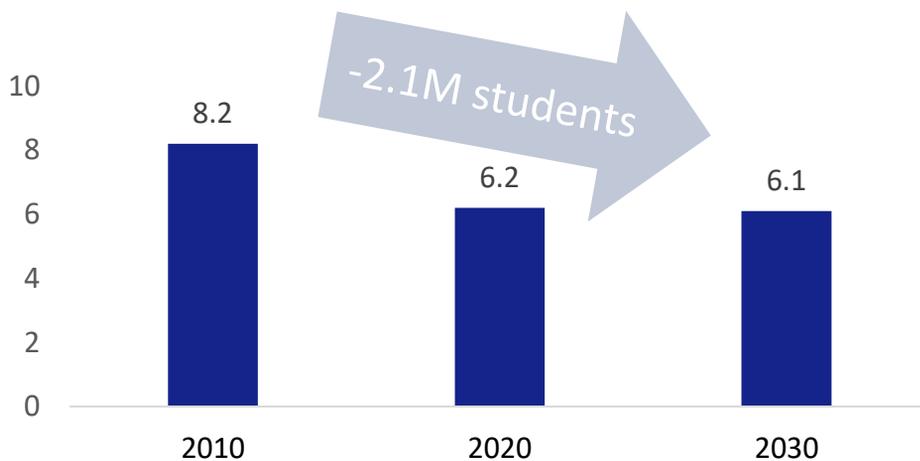

Additional projections indicate that the number of high school graduates continuing on to enroll in community colleges will decline approximately 15% over the next decade, meaning that community colleges will need to enroll almost 100,000 more adult learners per year than they currently do just to maintain the status quo in terms of credit-seeking enrollments[7]. Clearly the main (if not only) opportunity for growth at community colleges is in noncredit programming, and in particular, noncredit programming that is of the job-focused variety.

How Community Colleges Are Adapting

In an effort to better address the needs of a changing target market, community colleges are beginning to embrace bootcamp partnerships rapidly.

Community colleges have a history of embracing shorter programs or alternative credentials as a part of their mission and identity. These institutions also have a mission more specifically focused on job preparation. Surprisingly, however, it has taken some time for both parties to see this synergy, but since they have, partnership activity between bootcamp providers and community colleges has grown exponentially.

Figure 3 – New Partnerships Established Between Bootcamp Providers and Community Colleges
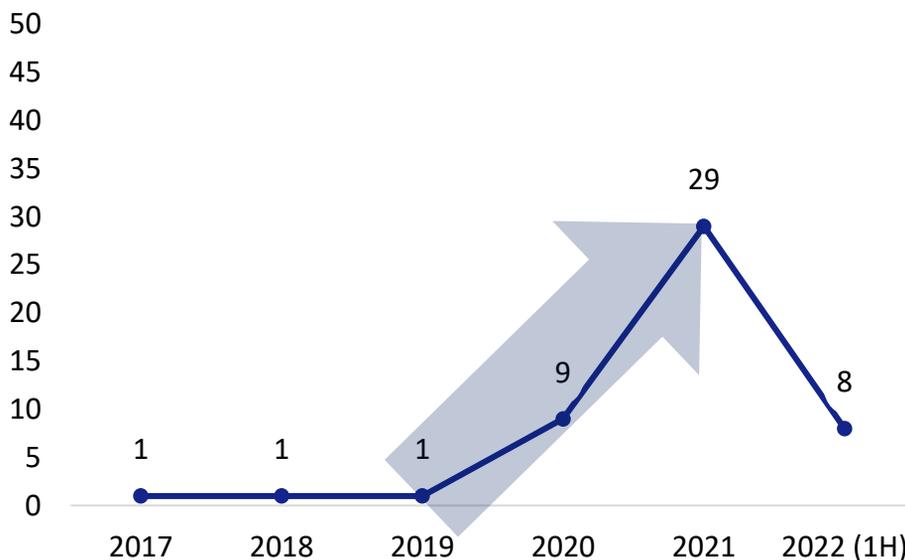
Prior to the onset of the COVID-19 pandemic, bootcamp providers and community colleges were seemingly "testing the waters" of the potential for partnerships.

By 2020, the model had been sufficiently proven and partnership activity exploded (although volume was still low). 2020 saw 9 new partnerships and 2021 saw 29, representing growth of more than 3.2X. While 2022 has seen a pullback from the massive growth observed in 2021, this year is still anticipated to be the second largest year on record in terms of new partnership activity.

> If community colleges follow the same trajectory that public universities followed, 20% of community colleges would have a bootcamp partner by 2030.

As of July 2022, we estimate that just 4.5% of community colleges have partnered with a bootcamp provider – up from 0.4% at the end of 2019. This level of saturation is tracking a bit behind the level observed at 4-year institutions as we estimate the level of saturation for public universities is greater than 20%. If community colleges follow a similar trajectory in terms of partnership activity that public universities followed, then 20% of community colleges would be projected to have a bootcamp partner by 2030.

Furthermore, 14.9% of community colleges with a bootcamp partnership have more than one, meaning there are hundreds more potential partnerships to be created before the market is saturated. If community colleges have the same appetite for these partnerships as 4-year institutions (and we estimate that they do), then as many as 365 more community colleges (35%) may be open to this sort of arrangement but are currently without a partner[8]. This represents a substantial opportunity since only 15 bootcamp providers have been identified with a community college partner.

Besides the clear alignment of mission and strategy between community colleges and bootcamps, there are other reasons these partnerships are proliferating. First, there are the financial benefits. Launching a new program is an expensive endeavor, and oftentimes, alternative (non-degree) programs are anticipated to generate significantly less revenue than degree programs. Across institutions of all types, we estimate that bootcamp partnerships bring in an average of $200K per year for the institution, with some known to bring in *ten times* that much. This is in comparison to the estimated average revenue of $25K generated each year by other alternative programs.

Bootcamps
$200K Revenue/Year

Other Alternative Programs
$25K Revenue/Year

This additional revenue of ~$200K is estimated to represent a 1% growth in revenue from an institution's continuing education unit (approximately $20M annually)[9]. Additionally, most of the most profitable alternative programs are post-baccalaureate programs (graduate certificates or executive education programs) meaning bootcamps might be even more cost-effective for community colleges that do not offer those programs.

The financial benefits are not only present for the community college, but also the bootcamp partner. We estimate that each bootcamp partnership is responsible for annual revenues of $800K for the bootcamp provider (when the program reaches scale). One driving reason behind this is that bootcamp providers command a much larger share of the revenue than partners with similar offerings. We estimate that the prevailing market average share that the bootcamp provider receives is approximately 80%, but downward pressure is present[10].

There are reasons other than the pure financial aspects that community colleges seek partnerships with bootcamp providers. For one, developing and deploying new credentials is an expensive, and risk-heavy endeavor for colleges. Launching a new program in conjunction with a partner enables new programs to be launched at a lower price, and with lower risk. Not only that, but these bootcamp credentials typically have more inertia in the market owing in part to the increasing adoption of this program type but also the additional brand equity provided by the bootcamp provider. This is critical because half of community college leaders report that they have some doubts about how competitive their new alternative credentials are in the increasingly complex marketplace for these programs[11]. Offering a program that already exists in the market with some ongoing brand inertia can be a powerful means of assuaging some of those doubts.

> Half of community college leaders have doubts about how competitive their alternative credentials are in the increasingly complex marketplace[11].

The Demand for Bootcamps

The market for bootcamp programs in the United States is growing rapidly and growth of these programs offered with community colleges is projected to be even faster.

The growing demand for bootcamps is one of the most observed phenomena in post-secondary education and education technology to date. These accelerated programs that are hyper focused on outcomes specifically in tech (and sometimes hybrid) skills have burst on the seen and now prepare a significant amount of workforce participants each year.

In the United States, the bootcamp market is projected to grow from $499M in 2022 to $997M in 2025 (26% CAGR, compared to a global CAGR of 21%).

Despite the broad recognition of the growth of these programs, this market has historically been drastically understated by research firms until recently. Older estimates pegged the global market for these programs at approximately $500M in 2020, but more accurate and updated information has revised that number up to $1.2B in 2020[12]. That total is projected to grow at a 21% CAGR through 2025 when the market will be worth $3.1B. Specifically in 2022, the market is estimated to be worth $1.76B with the United States accounting for $499M (28% of the global total). By 2025, the United States is anticipated to account for $997M (up to 32% of the global total).

From 2015 to 2020, the number of students completing bootcamp programs in the United States more than doubled from about 12,000 to over 30,000 (CAGR of 20%)[13,14]. Of these 30,000 students, we estimate that approximately 50% came via bootcamps offered in partnership with higher education institutions, and that of this population, 5% came via bootcamps offered in partnership with community colleges.

Figure 4 – Estimated and Projected Size of the Community College-Bootcamp Market (Millions, USD)
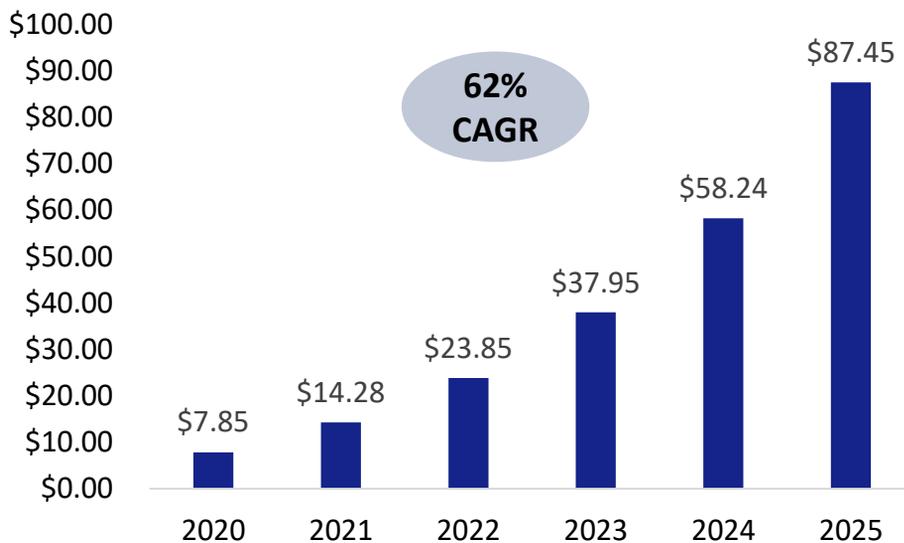
The market truly is in an "emerging" phase as the aggregate market size was estimated to have crossed $10M as recently as 2021. By 2025, however, the market is projected to be worth $87.45M after growing at a 62% CAGR – far outpacing the 26% CAGR for all bootcamps in the United States and 21% CAGR for all bootcamps globally. The market is then anticipated to eclipse $100M in 2026.

One (significant) reason that bootcamps continue to proliferate, regardless of who the ultimate audience is, is the ongoing shortage of technical skills in the United States workforce.

Figure 5 – Projected Employment in All Computer Occupations by 2030[16]

Occupations	Employment in 2020	Employment in 2030	Employment Growth (%)	Average Annual Openings
Computer Occupations	4,985,300	5,652,900	13.4%	441,500

Between 2020 and 2030, the United States is expected to need an annual average of 442K new workers to fill roles in computer occupations *each year*. The need may be even greater than that, as data from EMSI Burning Glass shows more than 1.3M open computer occupations in late 2022. Despite this need, in academic year 2020-21 all higher education institutions and bootcamp providers combined produced about 220K new programmers (includes all undergraduate programs in CIP codes 11.XXXX).

These entry-level preparation programs do not tell the whole story, however, as career paths often vary. In fact, 44% of technology professionals started their career in other occupations and pivoted into technology roles[17]. Career changers frequently look to programs other than full degrees for career pivots, and that is true in the tech fields as well as 57% of bootcamp graduates report that they did not consider a bachelor's degree as an alternative to a bootcamp[18].

There are a multitude of reasons that many of these persons are opting for bootcamps as opposed to traditional higher education programs (specifically 18% of upskilling adults are interested in using bootcamps for their upskilling efforts[19,20]). Among the leading reasons, however, are the desire for shorter and cheaper programs with the best outcomes – *a quicker route to a better ROI.*

Figure 6 – Differences Between Bootcamps and Degrees[21,22,23]

Indicator	Bootcamps	Associate's Degree in Computer Science	Bachelor's Degree in Computer Science
Cost	$14,000	$8,000	$38,000
Duration	3 months	24 months	48 months
Starting Salary	$69,000	$46,000	$61,000
Employment Rate	79%	N/A	89%*

**Bachelor's Degree in Computer Science employment rate includes those who progressed on to graduate school*

When compared side-by-side, it's clear why upskilling adults opt for these shorter programs as they provide competitive outcomes relative to the cost in a shorter amount of time. Hiring managers and employers are seemingly endorsing these programs as well as more of them report hiring bootcamp graduates and positive experiences with bootcamp graduates each year.

The Competitive Landscape

Promineo Tech is the leading provider in terms of the number of community college partnerships, and a number of adjacent providers like edX and ed2go are also growing.

As we have mentioned, there are only 15 bootcamp providers that have been identified that have partnerships with community colleges, nevertheless, the competitive ecosystem is much vaster as students look to a variety of providers when considering upskilling programs of this variety. Students have the option to choose from colleges and universities, alternative providers like bootcamps, providers of shorter courses like MOOCs, and a host of other enterprise and individual upskilling offerings. The community college-bootcamp partnership model is particular impactful because it presents the program to students both as a program from an alternative provider as well as from a community college that they have a high level of familiarity within their area.

Figure 6 – Percent of Upskilling Adults Who View Each Path as their Best Option for Upskilling[15]

19% look to programs like bootcamps

14% look to community colleges
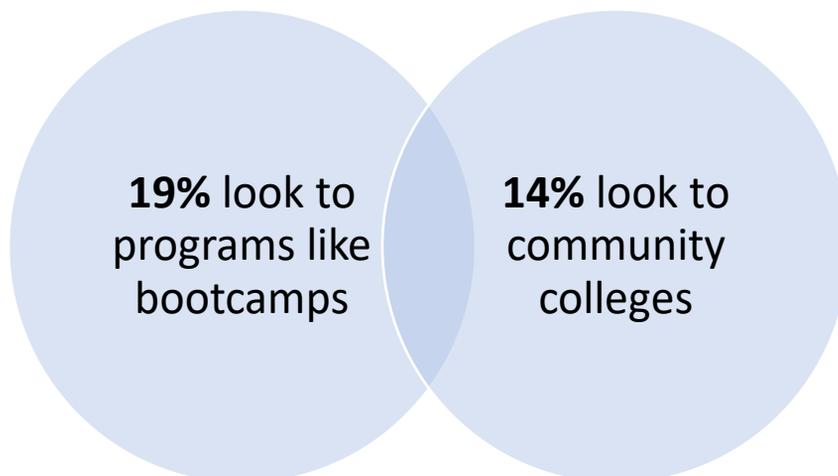
In addition to appealing to more potential upskilling persons, partnerships between bootcamps and community colleges also make the programs more valuable in the eyes of current college students. 51% of college students we surveyed said they would be more likely to pursue a bootcamp program at their school if it was offered in partnership with a bootcamp provider. Each of these factors contributes to the rapid forecast in growth of this particular market. To date, however, only a select few companies are filling this need.

Figure 7 – Percent of Community College Partnerships from Each Bootcamp Provider
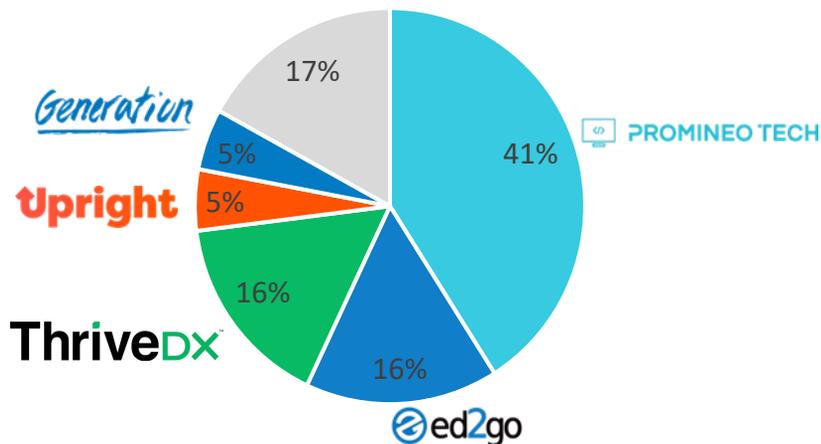
Far-and-away, the leading provider of bootcamps offered in conjunction with community colleges is Promineo Tech with 41% of the market. The top five providers in the space account for 83% of partnerships. Other leading providers include ed2go, ThriveDX (and Cybint), Upright Education, and Generation USA (which offers free programs).

Provider Profiles

Not all bootcamps offered by community colleges are the same. There seems to be significantly more price variance, and lower priced programs in general than is the case for the bulk of the bootcamp market. Among evaluated bootcamps, the prices varied from $799 to $13,950 (there are also a number of workforce development programs being provided for free to students) with an average cost of $6,264 – less than half of the general market average for all bootcamps. One other trend of note is that in the community college bootcamp space, it is much more common for programs to focus traditional coding subjects like full stack development and cyber security whereas in other sectors of the bootcamp world other programs are more common like AI/ML, data, digital marketing, and other fields.

College	Bootcamp Partner	Track(s)	Duration	Cost	Notes
Austin Community College (TX)	None	Full Stack	6 months	$7,200	Campus-based program
Central Texas College (TX)	ThriveDX	Cyber Security	N/A	$3,999	Fully online program
Clinton Community College (NY)	Upright Education	Full Stack, UI/UX	3 months to 6 months	$10,000	Fully online programs
Community College of Philadelphia (PA)	Promineo Tech	Back End, Front End	4.5 months	$4,000	Hybrid programs
Community College of Vermont (VT)	Upright Education	Full Stack, UI/UX	3 months to 6 months	$10,000	Fully online programs
Columbia State Community College (TN)	Upright Education	Full Stack, UI/UX	3 months to 6 months	$10,000	Fully online programs
Delgado Community College (LA)	ed2go	AI/ML, Cyber Security, Full Stack, Other	6 months	$4,275	Fully online programs

College	Bootcamp Partner	Track(s)	Duration	Cost	Notes
GateWay Community College (AZ)	Promineo Tech	Back End, Data, Front End	4.5 months to 6.5 months	$2,995 to $4,200	Fully online programs
Greenfield Community College (MA)	Upright Education	Full Stack, UI/UX	3 months to 6 months	$10,000	Fully online programs
Metropolitan Community College (NE)	None	Full Stack	9 months	$13,950	Campus-based program
Nashville State Community College (TN)	CodeX Academy	Front End, Full Stack	6 months to 12 months	$4,000 to $8,000	Hybrid programs
Nashville State Community College (TN)	Promineo Tech	Back End, Data, Front End	4.5 months to 6.5 months	$4,000 to $5,100	Fully online programs
Northeast Iowa Community College (IA)	None	Back End, Front End	N/A	$799	Campus-based programs, additional fee for 6 credits
Tulsa Community College (OK)	edX	Cyber Security, Data	6 months	Free	Fully online programs

PROMINEO TECH

Promineo Tech is the leading provider of bootcamp programs offered in conjunction with community colleges with 41% of partnerships. Promineo Tech is also tied for being the fastest growing bootcamp provider in terms of the number of partnerships with universities and colleges added since the start of 2021.

Promineo Tech offers programs in Back End Development, Front End Development, Data Engineering, and Digital Marketing. Promineo Tech's programs are fully online and range from 4.5 months to 6.5 months costing about $4,000.

Notable Partnerships:

ACC ARAPAHOE COMMUNITY COLLEGE

BROOKDALE COMMUNITY COLLEGE

College of Eastern Idaho

El Camino College

GATEWAY COMMUNITY COLLEGE A MARICOPA COMMUNITY COLLEGE

Nashville State Community College

OZARKS TECHNICAL COMMUNITY COLLEGE

SHELTON STATE COMMUNITY COLLEGE

Upright

Upright Education is a relatively new bootcamp provider that is particularly focused on partnering with community colleges (although they also have some partnerships with universities). Upright is quickly emerging to become one of the largest providers in the space, with a strong partnership base in New England.

Upright offers programs in Software Development and UI/UX as well as shorter programs called "career ignition" programs. Upright's programs cost $10,000 and last between 3 and 6 months.

Notable Partnerships:

ThriveDx™

ThriveDX is the result of a significant merger between HackerU and Cybint Solutions and is one of the leading providers of bootcamps offered in conjunction with colleges and universities. While ThriveDX offers many more programs than just Cyber Security, much of their community college partnership base comes from the entity formerly known as Cybint that specializes in Cyber Security programs.

ThriveDX's programs (with community colleges) typically cost less than $5,000.

Notable Partnerships:

Sources

1. About Us. AACC. (2022, February 28). Retrieved September 2, 2022, from https://www.aacc.nche.edu/2022/02/28/42888

2. AACC. (2019). Community college enrollment crisis? - AACC.NCHE.EDU. Retrieved September 2, 2022, from https://www.aacc.nche.edu/wp-content/uploads/2019/08/Crisis-in-Enrollment-2019.pdf

3. Xu, D., & Ran, X. (2015, September). Noncredit education in community college - ccrc.tc.columbia.edu. Retrieved September 2, 2022, from https://ccrc.tc.columbia.edu/media/k2/attachments/noncredit-education-in-community-college.pdf

4. Jacoby, T. (2021, September). The indispensable institution - Opportunity America. Retrieved September 2, 2022, from https://opportunityamericaonline.org/wp-content/uploads/2021/10/FINAL-survey-report.pdf

5. National Student Clearinghouse Research Center. (2021). Overview: Fall 2021 enrollment estimates. Retrieved September 2, 2022, from https://nscresearchcenter.org/wp-content/uploads/CTEE_Report_Fall_2021.pdf

6. National Center for Education Statistics at IES. (2020, May). Projections of education statistics to 2028. Retrieved September 2, 2022, from https://nces.ed.gov/pubs2020/2020024.pdf

7. Grawe, N. D. (2018). Demographics and the demand for higher education. Johns Hopkins University Press.

8. The Chronicle of Higher Education. (2022, August). Key findings - p3edu.com. P3 EDU. Retrieved September 7, 2022, from https://www.p3edu.com/wp-content/uploads/2022/08/The-Chronicle-of-Higher-Education-P3%E2%80%A2EDU-2022-Public-Private-Partnership-Survey-1.pdf

9. UPCEA. (2018, May). UPCEA salary, structure and staffing survey: Revenue per employee briefing. Retrieved September 7, 2022, from https://upcea.edu/wp-content/uploads/2018/05/UPCEA-Salary-Structure-and-Staffing-Survey-Revenue-Per-Employee.pdf

10. Dudley, T., & Rindlisbacher, E. (2021, August 4). Flying under the Regulation Radar: University partnerships with coding bootcamps. The Century Foundation. Retrieved September 7, 2022, from https://tcf.org/content/report/flying-regulation-radar-university-partnerships-coding-bootcamps/

11. Modern Campus and UPCEA. (2021, August 20). Shifting paradigms. Understanding Institutional Perspectives on Microcredentialing. Retrieved September 7, 2022, from https://moderncampus.com/research-paper/shifting-paradigms-understanding-institutional-perspectives-on-microcredentialing.html

12. Accelerated Digital Skills and the 'bootcamp boom'. HolonIQ. Global Impact Intelligence. (2022, February 28). Retrieved September 7, 2022, from https://www.holoniq.com/notes/accelerated-digital-skills-and-the-bootcamp-boom

13. Eggleston, L. (2020, April 2). 2020 coding bootcamp market size study. Course Report. Retrieved September 7, 2022, from https://www.coursereport.com/reports/2020-coding-bootcamp-market-size-study

14. Gallagher, J. (2022, June 20). State of the bootcamp market report 2021. Career Karma. Retrieved September 7, 2022, from https://careerkarma.com/blog/bootcamp-market-report-2021/

15. Hobi. (2021, February 4). *New poll: Over half of Americans under 40 believe they'll need to upskill*. Charles Koch Foundation. Retrieved September 8, 2022, from https://charleskochfoundation.org/news/new-poll-over-half-of-americans-under-40-believe-they-will-need-to-upskill/

16. U.S. Bureau of Labor Statistics. (2020). *EP data tables*. U.S. Bureau of Labor Statistics. Retrieved September 8, 2022, from https://www.bls.gov/emp/tables.htm

17. Carlin, D., Madgavkar, A., Maor, D., & Reich, A. (2022, September 1). *Overcoming the fear factor in hiring Tech Talent*. McKinsey & Company. Retrieved September 8, 2022, from https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/overcoming-the-fear-factor-in-hiring-tech-talent

18. Gallagher, J. (2021, June 21). *Career karma 2021 bootcamp preferences survey*. Career Karma. Retrieved September 8, 2022, from https://careerkarma.com/blog/bootcamp-outcomes-survey-2021/

19. *Global consumer sentiment report 2021: Future of Online Learning*. Emeritus. (2021, July 7). Retrieved September 9, 2022, from https://emeritus.org/research-2021/

20. *State of upskilling 2022*. Pluralsight. (2022). Retrieved September 9, 2022, from https://www.pluralsight.com/resource-center/state-of-upskilling-2022

21. *The highest-paying jobs with associate degrees*. Payscale. (2021). Retrieved September 12, 2022, from https://www.payscale.com/college-salary-report/majors-that-pay-you-back/associate

22. Nichols, T. (2021, November 10). *New data shows which bootcamps have higher tech employment rates than the ivy leagues*. SwitchUp. Retrieved September 12, 2022, from https://www.switchup.org/blog/coding-bootcamps-vs-cs-degrees-employment-rates

23. NACE. (2021, February). *First Destinations for the College Class of 2019: Findings and Analysis*. Retrieved September 12, 2022, from https://www.naceweb.org/uploadedfiles/files/2021/publication/free-report/first-destinations-for-the-class-of-2020.pdf