



2020 FEMA Higher Education State of The Community: Annual Survey and Report

ABSTRACT

The FEMA Higher Education Program Survey is annually conducted to collect and provide consistent data related to the faculty, curriculum, and students of emergency management programs. The following key questions guided the survey: (1) What is the focus of the emergency management (EM) programs? (2) Who are the students that benefit from EM programs? (3) What type of support is accessible to EM programs? (4) Which FEMA Higher Ed services do the EM programs use? Included in this survey are some brief notes on how the 2020 coronavirus pandemic has altered EM programs.

Report for the FEMA Higher Education program by DeeDee Bennett, Ph.D.

Executive Summary

The FEMA Higher Education Program Survey is conducted annually to collect and provide consistent data related to the faculty, curriculum, and students of emergency management programs. This year an additional question was asked of respondents due to COVID-19. The following key questions guided the survey: (1) What is the focus of the emergency management (EM) programs? (2) Who are the students that benefit from EM programs? (3) What type of support is accessible to EM programs? (4) What are the current and anticipated changes to the program due to the pandemic? (5) Which FEMA Higher Ed services do the EM programs use?

EM Programs

A total of 117 US-based and seven international institutional representatives responded to the survey, submitting information for nearly 155 programs. The responses to the survey, as indicated in this report, show that most programs have an overall focus on preparing students for work in the public sector. The programs are housed in various departments, schools, and colleges on campus, and the CIP codes highlight a range of disciplinary interests. However, Emergency Management and Homeland Security related are the most often used CIP codes. While responding programs have various degrees, certificates, and concentration offerings, most of the programs offer bachelor's degrees. More than 50% of the programs have offered EM curriculum between 5 and 15 years. Furthermore, the EM programs are increasingly providing the majority of their curriculum in an online format.

EM Students

The data in this report indicates that over 61,000 students have graduated with an emergency management degree. More than 50% of the programs have seen an increase in enrollment and expect an increase in enrollment over the past three years. Over 50% expect an increase in graduation over the next three years. Of those tracked, nearly half of graduating students move on to public sector EM positions. The data also indicates diversity is steady among most programs (54%). However, some of the diverse students have increased since 2019, such as the percentage of non-traditional students (46%), women students (40%), first-generation students (34%), Black/African American students (18%), and Asian students (9%).

Program Support

Responding programs overwhelmingly rely on part-time faculty. Nearly 30% of faculty (of each type) have a practitioner background. While external funding has generally been inaccessible for most programs, library resources, administrative support, local EM, state EM, and national EM support have been broadly accessible. For the programs anticipating changes before the pandemic, most expect an increase in student enrollment, new faculty positions, and restructuring of the program, department, or school. Most of the programs use the number of graduates as a metric of success.

Impacts of COVID-19

Many programs have had significant changes during the spring semester, which had an impact on EM curriculum and coursework due to the pandemic. Approximately 24% moved to temporary remote learning, 13% have had an increase in the program from students, and 12% have had an increase in the program from their universities. Respondents also indicate several anticipated changes in their program due to COVID-19, 28% expect an increase in enrollment, 16% anticipate a reduction in funds to support their program.

FEMA Resources

Most of the programs use the independent study courses (23%), the principles of emergency management document (22%) and journal articles (20%) found on the FEMA Higher Education website. However, nearly 36% of program respondents were not aware of the FEMA Higher Education webinars. Most respondents have participated in the special interest groups (43%), focus groups (32%), and annual symposium (54%).

Acknowledgements

This report would not be possible without the efforts of the FEMA Emergency Management Higher Education Program. Specifically, the continued support of Wendy Walsh, Barbara Johnson, and Rebecca Burns was instrumental in reaching active emergency management programs.

Additionally, this report would not occur if each of the program representatives did not fill out the survey. This year, the additional request may have been burdensome with all of the changes occurring in our educational programs, employment, and lifestyles due to the pandemic. Thank you for taking the time. Additionally, a special thanks to Dr. Carol Cwiak for the use of her initial survey instrument.

Citation

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Overview

The FEMA Higher Education State of the Community Annual Survey and Report provides consistent data related to the faculty, curriculum, and students of emergency management academic programs. Annually, the FEMA Higher Education Program requests a state of the community, status of emergency management-related educational programs at institutes of higher learning (IHE). This year, 2020, the effort was conducted by Dr. DeeDee Bennett at the University at Albany, State University of New York. Dr. Bennett has been administering this survey since 2017. The survey was initiated in 2004 by former FEMA Higher Education Program Director, Dr. Wayne Blanchard, and initially led by Dr. Henry Fischer (Cwaik, 2006). The survey has been conducted nearly every year since except for 2005, 2006, and 2013. The purpose of this project was to assess the usefulness of the products and services provided by the FEMA Higher Education program (FEMA Higher Ed) and to collect data on the current status of emergency management (EM) programs. The sample of programs contacted was identified from the FEMA Higher Ed database, which is updated annually. The FEMA Higher Ed database contained 307 institutions with emergency management-related programs, 290 were domestic institutions, and 17 were international institutions. Using these 307 IHEs as the sample size, a survey was sent for the point of contact at each IHE to answer four basic assessment questions: (1) What is the focus of the EM program? (2) Who are the students that benefit from this program? (3) What type of support is accessible to the program? (4) Which FEMA Higher Ed services do the EM programs use? This report is based on the responses from 121 institutions.

Table 1: Sample of survey respondents

Location	FEMA Database	Institutions Responding	Programs Represented	Response Rate
Domestic	290	114	147	39.3%
International	17	7	8	41.2%
Totals	307	121	155	39.4%

Note about COVID-19 Response

Many of the survey questions are related to the occurrences during this academic year (2019-2020) and projecting to the next academic year (2020-2021). Late 2019, a novel coronavirus was initially reported in Wuhan, China, with a patient presenting with pneumonia-like symptoms. By January 30, the World Health Organization (WHO, 2020b) declared this novel coronavirus an outbreak. In early February of 2020, the WHO announced a name for a novel coronavirus disease, COVID-19 (WHO, 2020b). In early March, the virus was named a pandemic by WHO (Chappell, 2020). As of May 10, 2020, there were over 4 million confirmed cases of the disease and nearly 300,000 deaths, with 215 countries reporting (WHOa, 2020). In the United States, there were approximately 1.4 million confirmed cases of the disease, and nearly 80,000 Americans have died as of May 11, 2020.

In many countries, including the United States, the response to this pandemic was to implement social distancing, which caused many businesses to close (unless essential) and many IHEs to move to temporary remote learning (CDC, 2020; Jiang, 2020; Brown 2020). Colleges and universities have seen a change in curriculum, housing students, performing research, and academic support, as most services were moved to an online format. This survey was deployed amid the uncertainty of the coronavirus pandemic and the rapid changes in the delivery of course instruction. Therefore, respondents were asked to answer their questions based on what they knew before

the pandemic and then asked about what they anticipate changing as a response to the pandemic. Unfortunately, the real impacts of the 2020 coronavirus pandemic on these academic programs may not be fully realized for years to come.

Methodology

This project used a web-based survey administered online. Invitations to participate were sent via email. The study used a single-stage sampling technique in which the researcher used the FEMA Higher Ed database to invite all known points of contact for emergency management higher education programs that had at one time used a product or service offered by FEMA (Cresswell, 2008; Dillman, Smyth, and Christian, 2014). All representatives listed as the point of contact for the emergency management programs were invited to participate in the online survey via email. The survey instrument used was modified from the previous survey administered in 2016 by Carol Cwiak at North Dakota State University, with permission (Cwiak, 2016). The applied instrument was modified to include specific questions related to program identification, student diversity, international programs, and detailed information about the products and services provided by the FEMA Higher Ed program. Again, the instrument was since modified to include questions regarding potential impacts due to the 2020 coronavirus pandemic.

The invitation email was sent out on the same day the survey launched; April 7, 2020. Two reminder emails were sent a week apart; the poll closed on May 1, 2020. The total response rate was 39%, with 121 of the 307 institutions represented. Figure 2 shows the number of respondents who participated in the survey over the 25-day window.

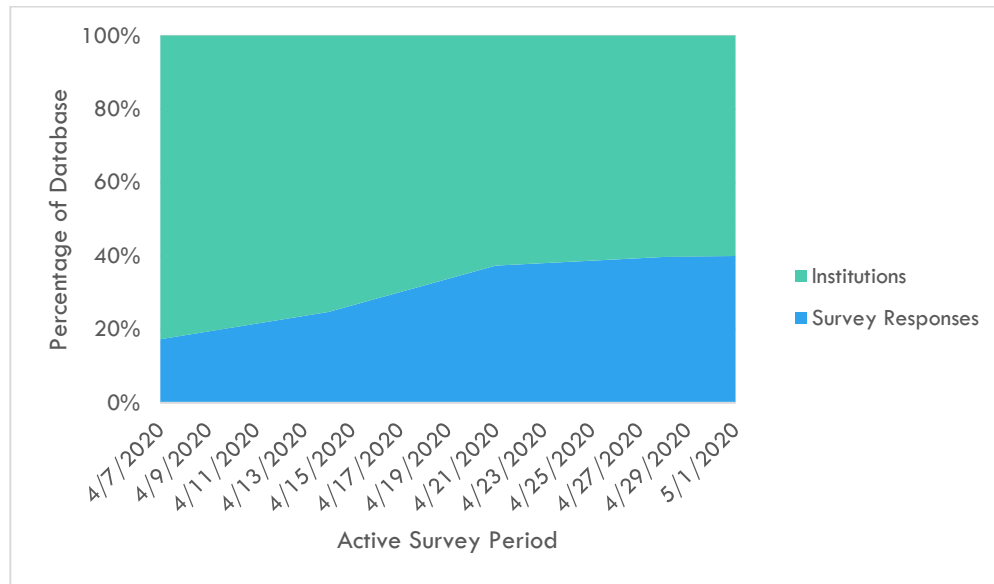


Figure 1: Survey responses over time.

Nearly 75% of respondents took 20 minutes or less complete the survey. Furthermore, none of the questions (except the first one consenting to the survey) required a response from every program. For example, only programs that indicated they offered associates degrees were asked the following questions relating to the associate's degree curriculum. Therefore, for each section of this report, take note of the total number of program respondents, reported as "n," which may vary.

The survey instrument was administered at the University of Albany Qualtrics Research Platform. Answers to open-ended short-answer questions were rudimentarily coded by semantic content analysis, grouping the frequency of similar responses (such as services, curriculum) and any final qualifiers (positive or negative) to give an overview of respondent sentiment (Krippendorff, 2004).

The results appear in the following sections related to the four-fold focus for all U.S. based programs; information about the program, the students, the faculty and institutional support, and the use of the FEMA Higher Ed products and services. Subsequent sections report the results from undergraduate, graduate, and international programs. Throughout the report, comparisons are made with the results from previous surveys.

Program

A total of 114 US-based institutional representatives responded to the survey, submitting information for nearly 147 programs. While each institute of higher education (IHE) contacted for this survey is known to offer emergency management curriculum and coursework, the program focus, age, and department location vary. This section of the report focuses on identifying information about all US-based IHEs responding to this survey. It also provides an overview of the types of emergency management programs offered nationwide. Figure 2 displays the corresponding schools and departments in which the emergency management program resides.

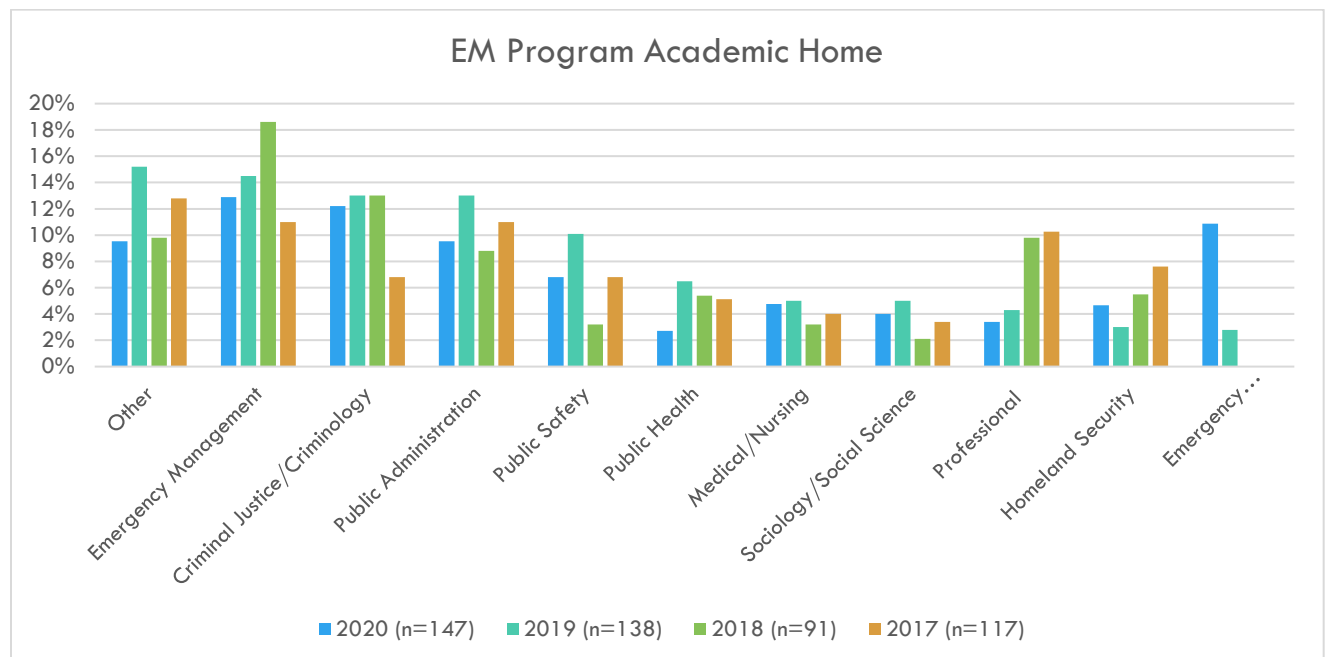


Figure 2: Percentage of emergency-management related program respondents by academic departments.

Only the top ten departments are recorded in Figure 2, as well as the 'other' category. Though the annual respondents vary, each year majority of programs reside within Emergency Management departments. Not shown in Figure 3, in 2020, approximately 1% in geography, 2% in Engineering, and 1% in Urban Planning. The 'other' category included various departments, which didn't easily fit into one of those mentioned above, such as Earth Science, Transportation Management, Online and Innovation Education, and International Studies.

Emergency management program representatives were also asked about their Classification of Instructional Programs (CIP) code(s) as developed by the U.S. Department of Education’s National Center for Education Statistics (NCES). Table 2 identifies the responses, including the typology title. Several respondents replied with more than one CIP code, (the count is 213 responses for this single question). This indicates that most programs may be interdisciplinary, but it also reflects that many representatives may not be aware of the CIP code used to identify their program initially. In Table 2, the ‘other’ category reflects several respondents who indicated they were not aware of the CIP code and specific codes not mentioned in the multiple-choice answers, such as 26.0599 - Microbiological Sciences and Immunology, and 55 - Public Service.

Table 2: Corresponding percentage of survey respondents by CIP code and typology

CIP Code and Typology Title	Percentage	n
43.0302 Crisis/Emergency/Disaster Management	33.33%	71
43.0301 Homeland Security	23.00%	49
43 Homeland Security, Law Enforcement, Firefighting, and related protective services	15.79%	30
Other	11.05%	21
44.X Public Administration and Social Service	6.57%	14
51.X Health Services/Allied Health/ Health Sciences, general	4.69%	10
30.999 Multi-Interdisciplinary studies, other	3.29%	7
34 Health-Related Knowledge and Skills	2.35%	5
24.0199 Liberal Arts and Sciences, General Studies and humanities, other	2.35%	5
45.X Social Sciences	2.35%	5
52.X Business/Commerce, general	0%	0
14.0804 Transportation and Highway Engineering	1.41%	3

Respondents were also asked how long they have offered emergency management curriculum in their programs. Many of the programs have been around for quite some time. As evident in Figure 3, nearly 12% of the programs have been in existence for over 20 years. Most have been around between 5 and 10 years, approximately 34% of the programs. However, several programs are early in existence, with nearly 22% offering EM curriculum less than five years.

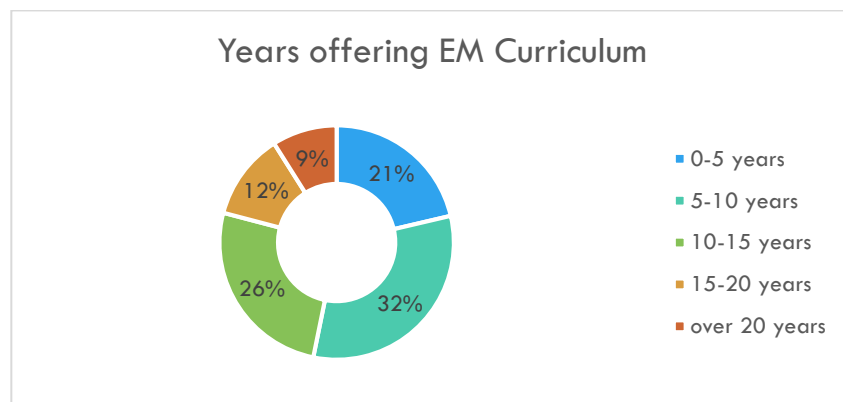


Figure 3: Percentage of programs by length of time offering EM curriculum

Degree Offerings

This report was disseminated to IHEs with programs that had broad offerings of emergency management curricula. The majority of IHE offerings (degrees, certificates, or concentrations) in the emergency management space are focused at the undergraduate level (55%). However, several programs offer graduate degrees, certificates, and concentrations (34%). Figure 4 identifies the type of curriculum offered in each program by the percentage of responses. From this question, a total number of 136 offerings for degrees are represented.

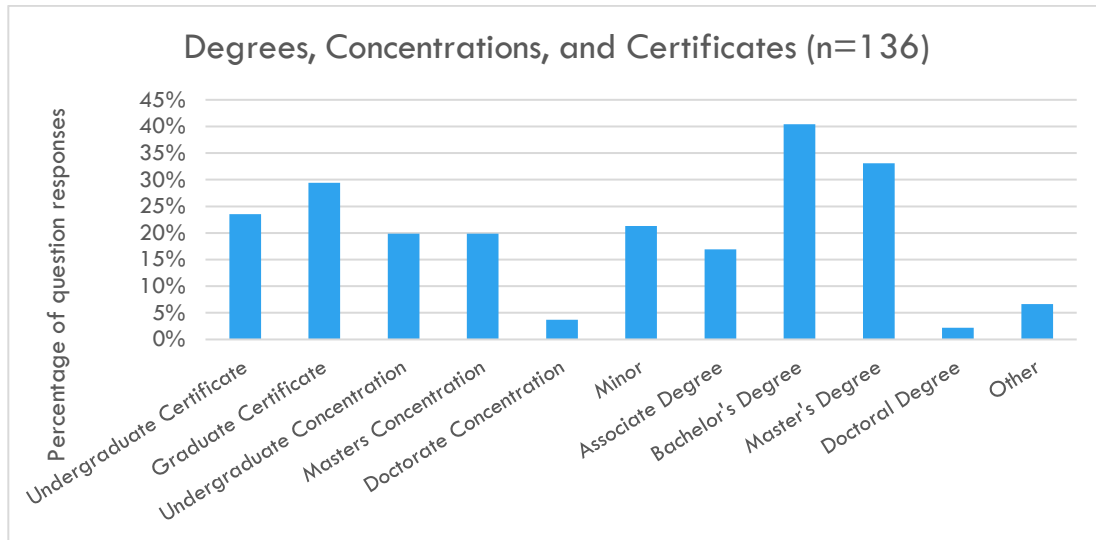


Figure 4: Type of curriculum offered by responding programs as a percentage of responses

The 'other' category included programs which incorporated coursework, which did not offer students a certificate, concentration, minor, or degree opportunity.

Sector Focus

Out of 136 programs, 49% considered the public sector as the primary orientation of their program. Nearly 23% indicated that the private sector was a central focus of their program, while nearly 15% of programs also consider non-profit (NVOAD). Finally, 13% of the programs have humanitarian (global EM) to be the focal sector. Results shown in Figure 5 reflect programs with more than one primary orientation; thus, the total count of selections for this question is 261.

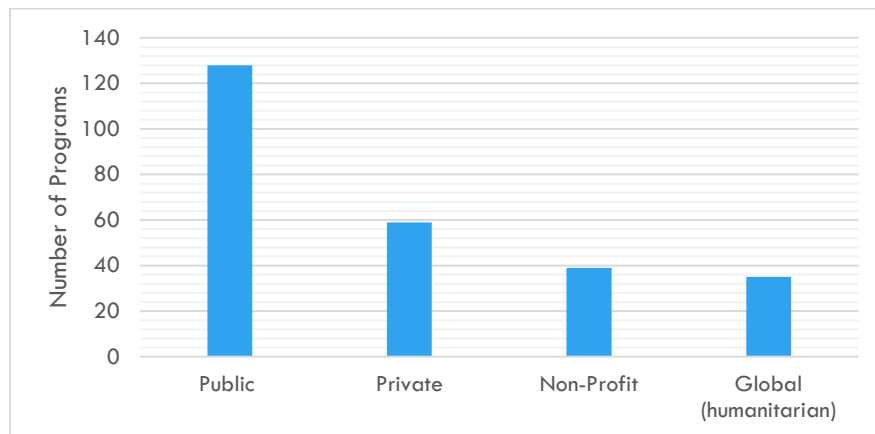


Figure 5: Primary sector focus of EM programs, respondents were able to select more than one.

Curriculum

The majority of the programs represented in this survey were not in the process of developing programs (68%). Of the programs indicating they are developing new programs (n=38): most are developing certificate programs, graduate programs (either masters or doctorate), or topical curriculum including cybersecurity or healthcare. Other mentions include supply chain management, gaming, and drones.

The majority of the programs (88%) offered coursework through some form of distance education (online) before the coronavirus pandemic. Approximately 39% of respondents (n=39) offer over three-fourths of the curriculum [76% - 100%] both in-person and online and over 64% offer majority of their curriculum online [76% - 100%]. Figure 6 shows the percentage of the curriculum offered in both modalities (n=100), as well as the portion of the curriculum provided solely online (n=93).

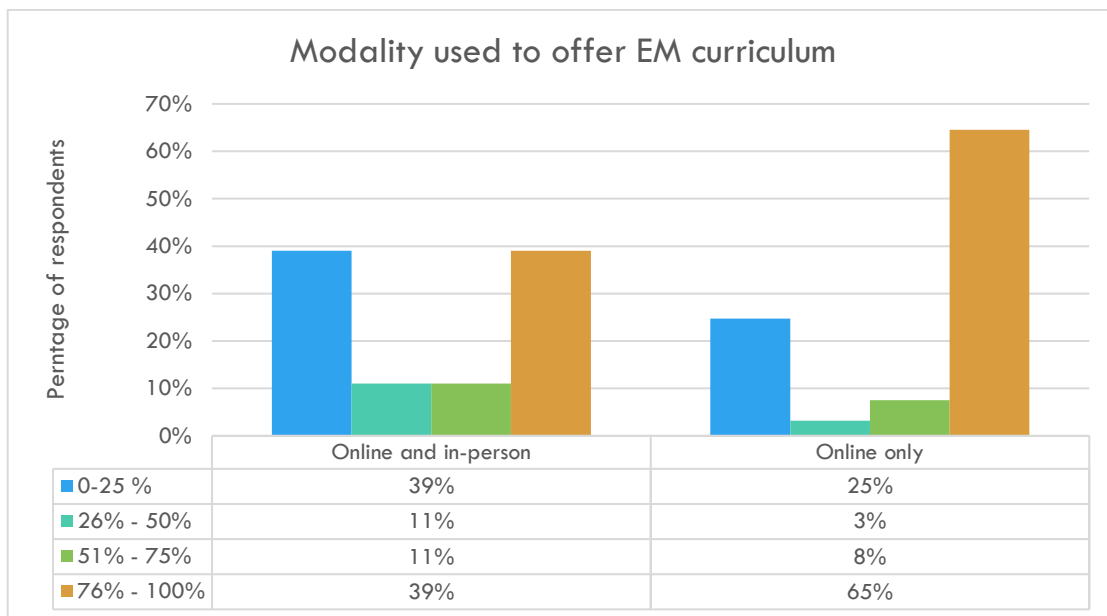


Figure 6: Chart of online and in-person course offerings by percentage

Students

During the 2019-2020 academic year, respondents (n=100) estimated 3,209 have graduated from programs offering undergraduate or graduate degrees in emergency management. Assuming the FEMA Higher Education Program database represents 100% of the EM programs, extrapolation for the total number of students is based on 39% of U.S. based programs represented in the survey. From extrapolation, approximately 8,228 students graduated from an emergency management program during the academic year. Table 2 shows the number of graduates from emergency management programs over the last three years.

Table 3: Estimated total number of graduates from emergency management programs.

	2017 raw numbers	2017 *estimate	2018 raw numbers	2018 *estimate	2019 raw numbers	2019 *estimate	2020 raw numbers	2020 *estimate
Number of EM graduates	2,364	6,389	2,956	9,755	2,934	7,930	3209	8228
Number of graduates since the inception of FEMA Higher Ed.	---	36,049	---	45,804	---	53,734	---	61,962

The previous report in 2019, estimated nearly 54,000 students graduated from emergency management programs since the inception of the FEMA Higher Education programs survey began (Bennett, 2019). With the addition of extrapolated estimated from this year, there have been nearly 62,000 graduates from EM programs.

Enrollment

Enrollment in emergency management programs continues to rise. During the past three years, 57% of respondents (n=55) indicate that enrollment increased, while 26% (n=25) saw no change. Approximately 17% of responding programs had a decrease in enrollment (n=16). The projections for the next three years indicated a slightly more optimistic pattern, with 65% of respondents (n=62) expecting an increase in enrollment and only 8% (n=8) projecting a decrease. Figure 7 is a stacked chart, which shows the student patterns for enrollment and graduation over the past three years and estimates for the next three years.

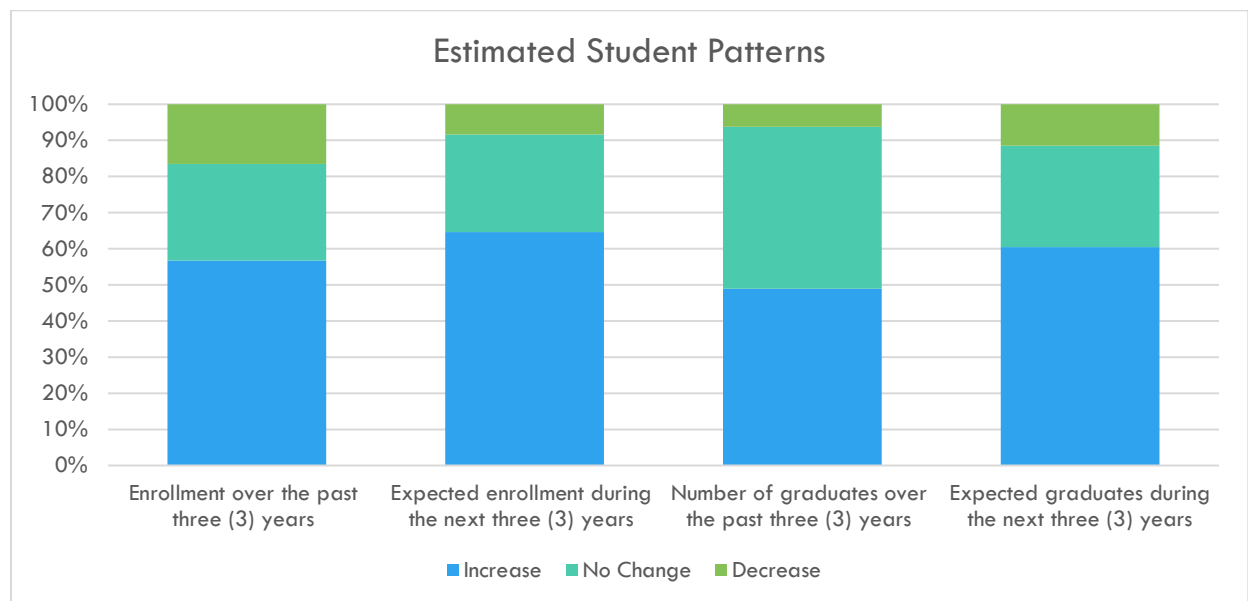


Figure 7: Stacked chart of estimate student patterns (enrollment and graduation) ± three years.

As shown, student graduation rates are not similar to enrollment. Respondents 49% (n=47) indicate there was an increase in graduating students over the past three years, while nearly 45% (n=43) saw no change in the number of graduating students. Very few programs had a

decrease in student graduation rates (6%, n=6). Programs are slightly optimistic to expect an increase in student graduation in the next three years (60%, n=58). Nearly 29% of respondents anticipate no change in the number of students graduating in the next three years (n=27).

Post-Graduation

After graduation, students may go on to graduate school or secure employment. Keeping track of students' post-graduation can be quite challenging. However, approximately 54% of degree-granting emergency management programs (n=54) have tracked their students' employment after leaving their IHE. Of those programs able to keep in contact with their graduates, approximately 49% move into public sector EM-related positions. Nearly 28% of graduates move into private sector positions, while fewer graduates move into non-profit (NVOAD) or humanitarian (global) areas, 18%, and 11%, respectively.

Diversity

Over the past couple of years, this survey has been used to track diversity in the student body of emergency management programs. Data from 2017 to 2019 indicate that the student body is becoming more diverse. This year approximately 36% of programs (n=35) reported an observed increase in diversity among their students. Of note, nearly 54% of programs (n=52) indicated that their diversity has remained steady. Almost 8% of respondents were unable to monitor diversity, and only 1% say a decrease in diversity.

While overused, the term diversity can have several different meanings, including gender, racial/ethnic minority populations, and nationality. In this survey, programs were asked to consider diverse groups of students, including non-traditional, first-generation, and military groups.

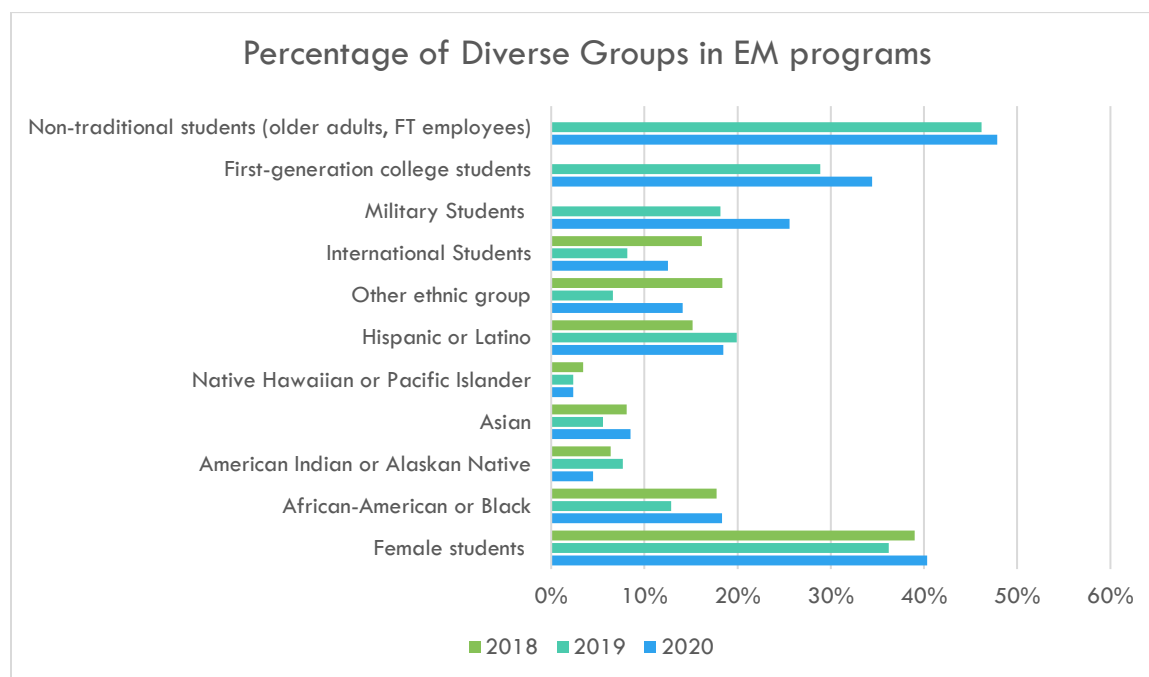


Figure 8: Average percentage of diverse student populations enrolled in EM programs

Figure 8 shows the average percentage of diverse student populations enrolled in EM programs in 2018 and 2019. By far, program respondents noted the most diverse group of students as non-traditional (48%), older adults returning to school, and individuals going to school while maintaining full-time jobs. Comparing results from the previous surveys shows that the percentage of female students is back to 2018 estimates (approximately 40%), as did the percentage of African-Americans (18%). International students are lower than the 2018 numbers, an approximate 3% decrease, though these numbers are higher than last year's 5% increase.

Program Support

Type of Faculty

At the university level, faculty can generally be categorized into four categories; tenure-track, tenured, full time non-tenured, and part-time (or adjunct). Most often, tenure-track faculty are the assistant professors (and occasionally associate professors) working towards specific research, teaching, and service metrics as prescribed by the university and department. Tenured faculty members are most often full professors, associate professors, or equivalent. Lecturers, Instructors, and other full-time faculty usually do not have the same metrics for research as the tenured or tenure-track professors. Instead, they focus the majority of their time on teaching. Similarly, part-time faculty members (such as adjuncts) do not have research duties and are focused on education, usually one class and one semester at a time.

Among degree-granting programs in emergency management, the majority rely on part-time faculty (adjunct or equivalent). In fact, given the number of respondents, several programs depended entirely upon part-time faculty (upwards of 200). Table 4 shows the average type of faculty in emergency management programs along with standard deviation.

Table 4: Type of faculty in emergency management programs

	Min	Max	Mean	Std. Dev	n
Full-time tenure-track	0	17	2.06	2.64	71
Full-time tenured	0	29	2.88	3.99	59
Full-time non-tenured	0	50	3.17	7.25	63
Part-time faculty	0	200*	15.77	32.98	84
Affiliated or associated faculty	0	50	6.88	10.68	26

*200 was the max response for each question

The raw numbers of faculty in emergency management programs, as shown in Table 5, highlight a decreasing trend across each faculty type. The most dramatic is with full-time tenured and part-time faculty. Table 5 shows the raw number of faculty in emergency management programs over the past four years.

Table 5: Total number of faculty as reported, by type

	2020	2019	2018	2017
Full-time tenure-track	146	280	295	395
Full-time tenured	170	156	575	351
Full-time non-tenured	200	131	190	233
Part-time faculty	1325	1290	1442	2269
Affiliated or associated faculty	179	113	232	--

Many programs employ faculty with practitioner backgrounds to teach in their programs. Figure 9 shows that part-time faculty most often have a practitioner background. However, nearly 60% of full-time non-tenure track and 41% of the full-time tenure track faculty have a practitioner background. Almost 40% of respondents (n=97) indicated they hired a new individual in their program. Approximately 10% of the respondents were unable to hire a new person. Of those who searched for new employees, nearly 53% (n=68) of the hires (faculty/staff) were part-time individuals.

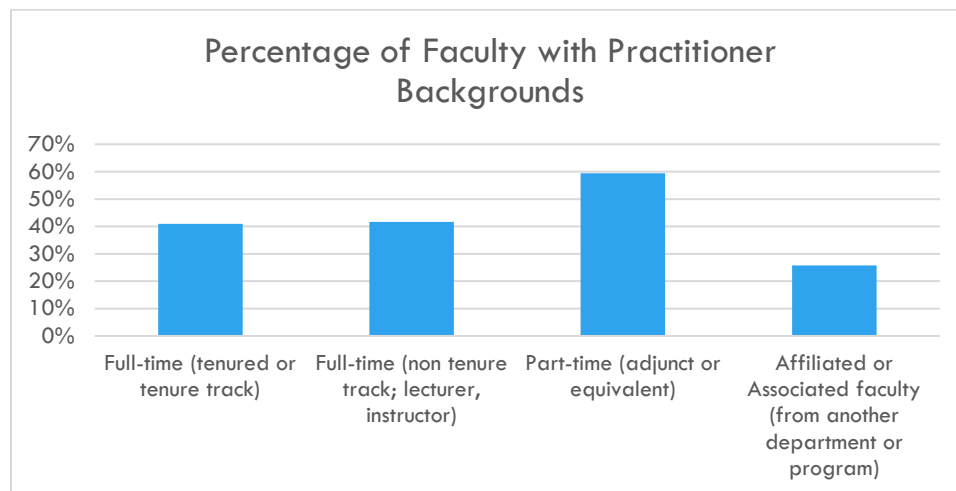


Figure 9: Average percentage of faculty with an EM-related practitioner background

Access to program support

A little over a third of programs (35%) indicated that external funding opportunities are generally inaccessible (n=93), though nearly 40% of the programs reported that internal funding

opportunities are usually accessible. Library resources and administrative support have been available to most EM programs, 85% and 71%, respectively. With regards to support from the EM community, most of the programs indicated that support is generally accessible at all levels, or they were neutral in their response, highlighted in Table 6.

Table 6: Accessibility of various types of program support.

	Extremely inaccessible		Moderately inaccessible		Slightly inaccessible		Neutral		Slightly accessible		Moderately accessible		Extremely accessible		Total
External funding opportunities	22.66%	22	8.60%	8	3.23%	3	37.63%	35	12.90%	12	11.83%	11	2.15%	2	93
Institutional funding	11.83%	11	7.53%	7	10.75%	10	30.11%	28	20.43%	19	15.05%	14	4.30%	4	93
Library resources	3.23%	3	0.00%	0	2.15%	2	9.68%	9	10.75%	10	58.06%	54	16.13%	15	93
Administrative support	4.30%	4	2.15%	2	7.53%	7	15.05%	14	21.51%	20	40.86%	38	8.60%	8	93
Local EM community	4.30%	4	1.08%	1	1.08%	1	12.90%	12	26.88%	25	45.16%	42	8.60%	8	93
State EM community	6.38%	6	5.32%	5	5.32%	5	23.40%	22	25.53%	24	24.47%	23	9.57%	9	94
National EM community	4.26%	4	3.19%	3	3.19%	3	32.98%	31	30.85%	29	20.21%	19	5.32%	5	94
FEMA-specific	6.45%	6	5.38%	5	4.30%	4	32.26%	30	21.51%	20	24.73%	23	5.38%	5	93
DHS-specific	7.53%	7	4.30%	4	4.30%	4	44.09%	41	23.66%	22	11.83%	11	4.30%	4	93

Table 7 shows the comparison of access indicators for the last three years. As shown, the averages are similar for the previous years.

Table 7: Comparison of the access and support indicators over the three years

	2017			2018			2019			2020		
	Mean	Std. Dev.	n	Mean	Std. Dev.	n	Mean	Std. Dev.	n	Mean	Std. Dev.	n
External funding opportunities	3.35	1.97	104	3.44	1.88	77	3.32	1.65	87	3.52	1.75	93
Institutional funding	3.80	2.07	106	4.07	1.89	76	4.00	1.64	87	4.02	1.63	93
Library resources	6.22	1.25	106	6.21	1.39	77	5.63	1.25	87	5.63	1.23	93
Administrative support	4.90	1.95	106	5.14	1.95	77	4.83	1.65	87	5.04	1.44	93
Local EM community	5.49	1.60	104	5.61	1.59	77	5.26	1.47	87	5.27	1.30	93
State EM community	5.17	1.72	104	5.19	1.73	77	4.70	1.52	87	4.68	1.57	94
National EM community	4.64	1.62	104	4.82	1.74	77	4.53	1.40	87	4.65	1.31	94
FEMA-specific	4.68	1.65	104	4.68	1.87	76	4.60	1.51	86	4.53	1.50	93
DHS-specific	4.12	1.55	104	4.20	1.76	76	4.05	1.29	87	4.25	1.39	93

Metrics of Success

Nearly 25% of the programs use the number of graduates as a metric of success for their programs. A little over 14% of the programs indicated that student opportunities, the performance of program reviews, and the increase in student majors as a metric of success. While all respondents were provided the multiple-choice parameters listed in Figure 10, less than 3% of responding programs used another metric not listed. Other metrics included placement in graduate programs, the number of new applications, an increase in research productivity, enrollments, and percent capacity for courses.

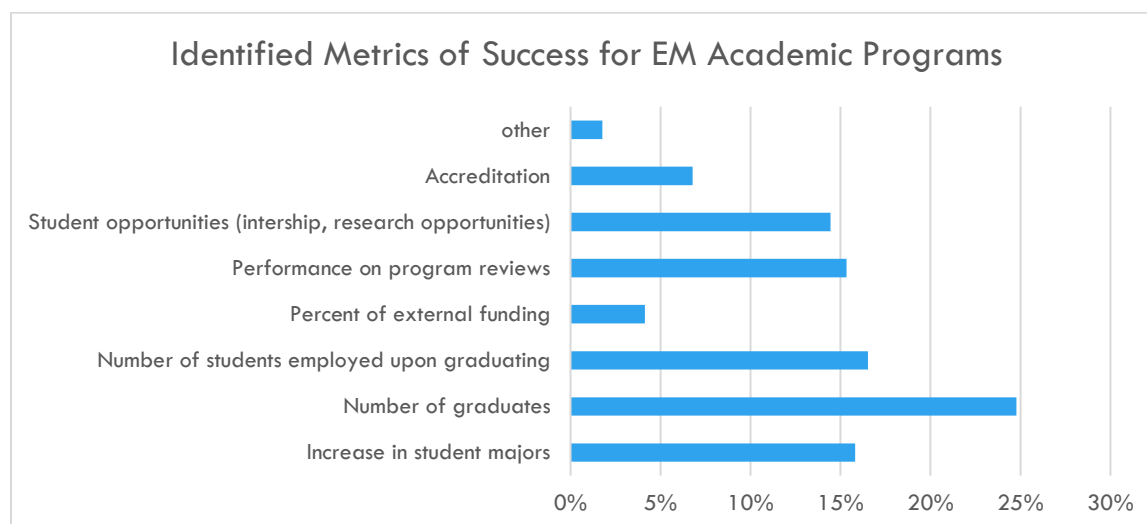


Figure 10: Program-identified metrics of success

Anticipated Changes

The majority of respondents anticipate an increase in student enrollment (27.24%), approximately 16% plan for new faculty positions, and 8% expect to restructure their program, department, or school. The least likely change is for new doctoral programs (3%), a decrease in student enrollment (3%), or an increase in financial support (5%). These responses were solicited from respondents with the caveat that their answers did not consider new developments due to the coronavirus pandemic. Figure 11 shows their responses.

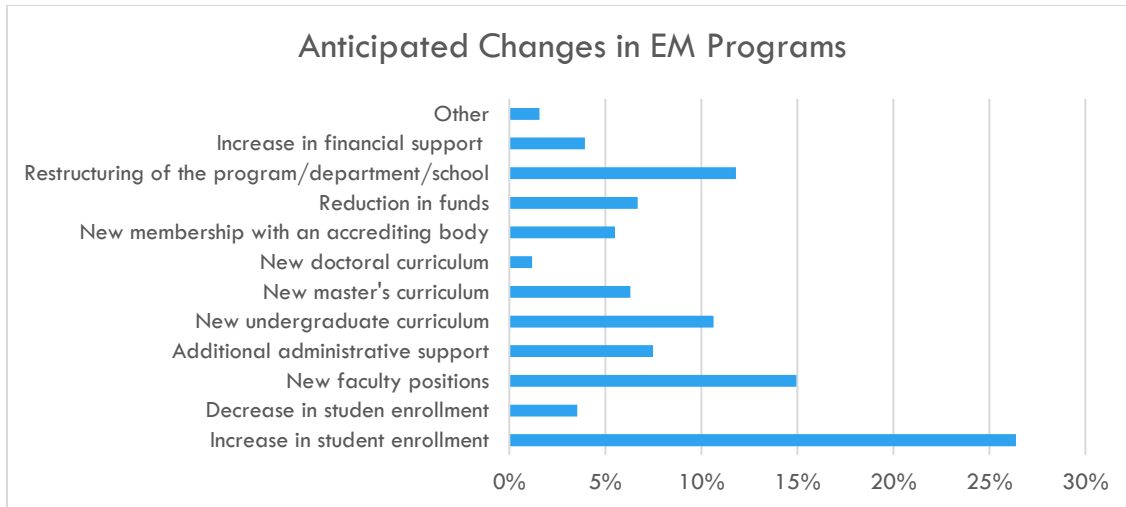


Figure 11: Anticipated changes in the program over the next year.

Approximately 1% of the respondents indicated a likely change different from the selection offered in the survey. Other responses included: *virtual reality training* and *closing the program*.

Impacts of COVID-19 response

Around early March in 2020, many colleges and universities that offered face-to-face classes moved to temporary remote learning in response to the growing number of COVID-19 cases in the United States. What was initially considered temporary and potentially short-lived, became continuous during the spring semester. The majority of colleges and universities did not allow students to continue their studies in face-to-face formats on campus. Furthermore, administrative support, research support, and student activities were all moved to a temporary, remote setting. Even many IHE commencements were moved to online celebrations, with in-person graduations postponed.

Simultaneously, the United States economy has suffered as most businesses have had to close down, adjust the delivery of services, and pivot to cater to consumers who were mainly staying at home. These changes have led to significant deficits at the state level across the country (McNicohol et al., 2020). These deficits may impact the budgets for several IHEs in the coming semesters. Though it is early, as the new fiscal year begins in July, some IHEs have started to prepare and brace for changes such as hiring freezes (Flaherty, 2020). Therefore, in this survey, representatives from programs offering EM curriculum were asked about any current changes that

have occurred due to COVID-19 (Figure 12) and any anticipated changes due to COVID-19 (Figure 13).

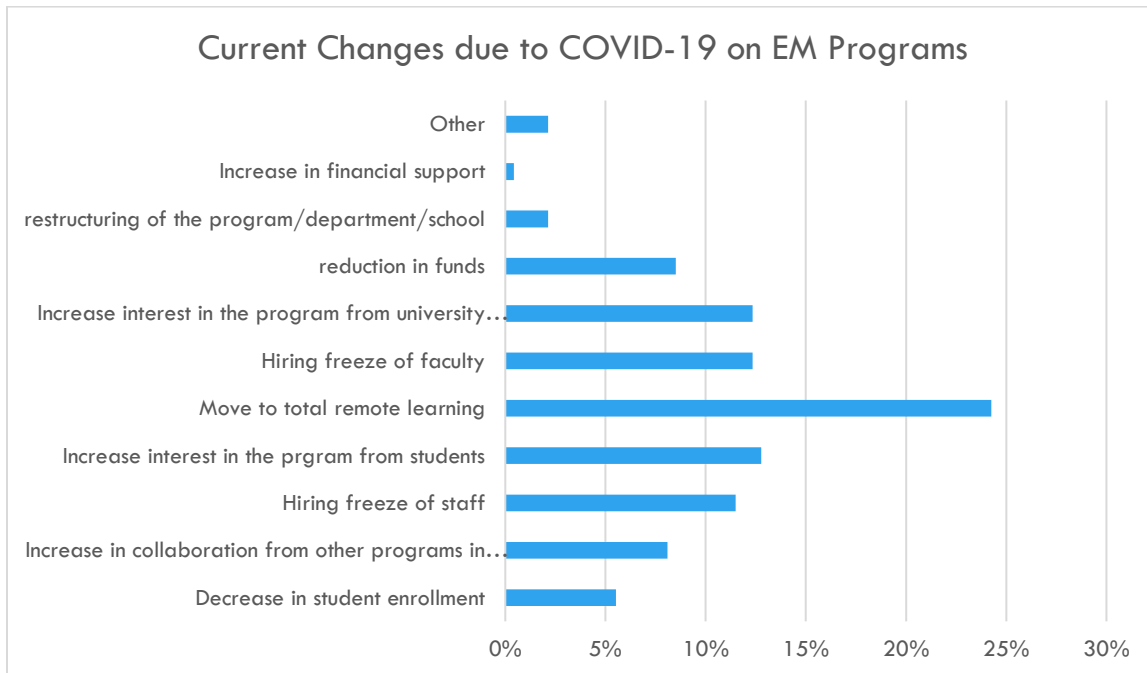
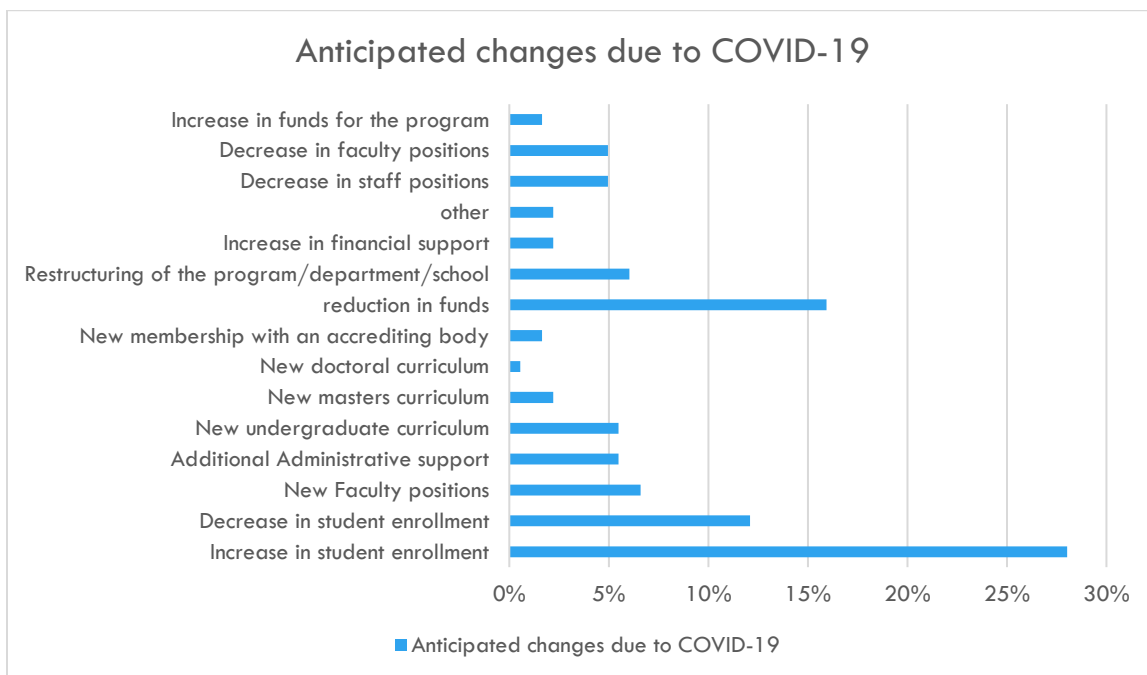


Figure 12: Program-identified changes due to COVID-19

Approximately 2% of programs reported a change other than those included in the multiple-choice question. Their responses included: *increased visibility & influence, students missing class, withdrawing students due to work, no change, and too early to assess.*



Others: course development, reduction in state funds to the institution, graduate certificate program, no changes.

Access to FEMA Higher Education Resources

In addition to providing insight on program matriculation and faculty support, this survey also asked questions regarding the use of FEMA Higher Ed resources. The FEMA Higher Ed program offers several opportunities online or in-person for curriculum development, research meetings, and training.

Online Resources

Out of 91 programs responding, the majority use the Independent study courses offered online (23%). All use the Independent study courses as supplemental course material (100%). The Principles of Emergency Management and the journal articles offered on the FEMA Higher Ed website are a close second and third popularly used online resources, 22% and 20%, respectively.

For respondents who did not select the Principles of Emergency Management Document (n=25), precisely 28% were also not aware of the document. For respondents who indicated that they used the principles of Emergency Management document (n=73), 63% use it in undergraduate courses, 37% use it in graduate courses.

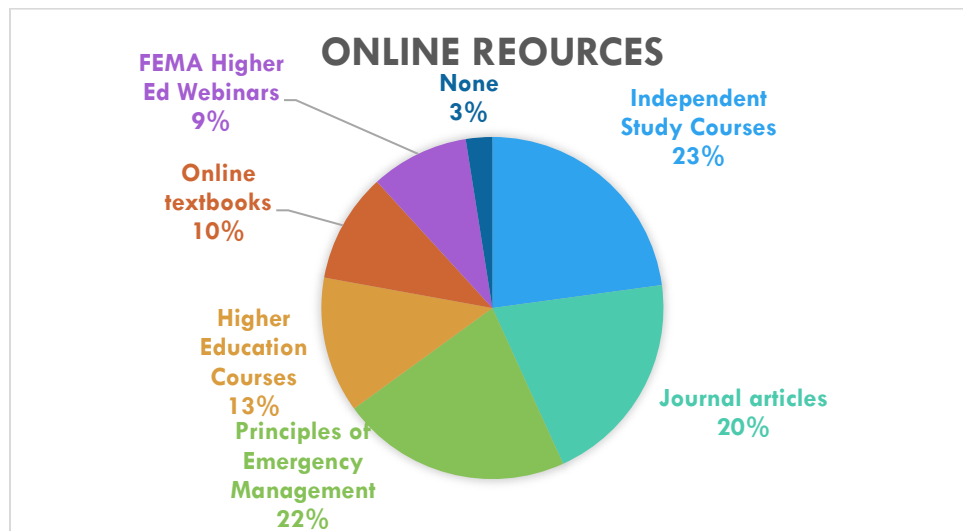


Figure 13: Use of FEMA Higher Ed online resources

Of the respondents who indicated that they use the FEMA Higher Education courses (n=26), they were requested to identify which courses they used. Below is the ranking for each course from most to least used.

National Incident Management Systems Course (NIMS)	7.69%
Building Disaster Resilient Communities	5.92%
Disaster Response Operations and Management	5.92%
Business Crisis and Continuity Management	5.33%
Breaking the Disaster Cycle: Future Directions in Natural Hazard Mitigation	5.33%
Terrorism and Emergency Management	4.73%

Social Dimensions of Disaster	4.73%
Technology and Emergency Management	4.73%
Sociology of Disaster	4.14%
Homeland Security and Emergency Management	4.14%
Social Vulnerability Approach to Disasters	4.14%
Catastrophe Readiness and Response Course	4.14%
Comparative Emergency Management	3.55%
Hazards Risk Management	3.55%
Hazard Mapping and Modeling	3.55%
Research and Analysis Methods in Emergency Management	3.55%
Principles and Practice of Hazard Mitigation	2.96%
Political and Policy Basis of Emergency Management	2.96%
Holistic Disaster Recovery: Creating a More Sustainable Future	2.96%
Principle, Practice, Philosophy, and Doctrine of Emergency Management	2.37%
Earthquake Hazard and Emergency Management	2.37%
Individual and Community Disaster Education	1.78%
Coastal Hazards Management	1.78%
Emergency Management Principles and Application for Tourism, Hospitality & Travel Management	1.78%
Flood Plain Management (Graduate Level)	1.78%
Public Administration and Emergency Management	1.18%
Hazards, Disasters and U.S. Emergency Management - An Introduction (working draft)	1.18%
Floodplain Management: Principles and Current Practices	1.18%

The least used resources were online textbooks (10%) and FEMA Higher Ed webinars (9%). For respondents who indicated that they did not use the FEMA Higher Ed webinars, 37% were not aware of the webinars, and 28% noted the webinars are often at an inconvenient time. Approximately 13% thought the topics were not related to their immediate interest. One respondent indicated they were unable to use the platform.

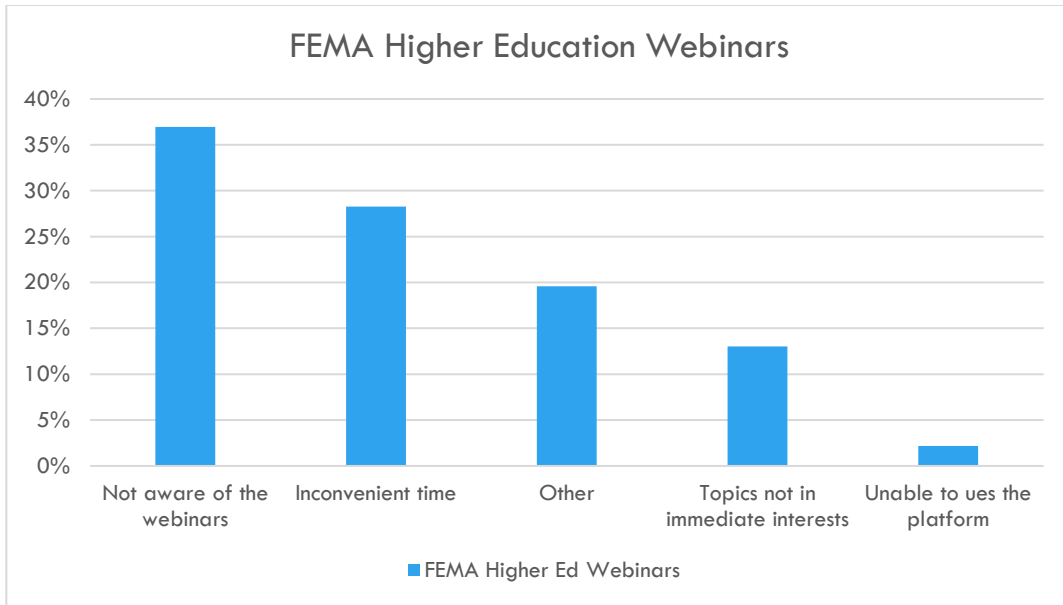


Figure 14: Reasons programs do not participate in the FEMA Higher Ed webinars

For the programs that selected 'other,' there were a variety of reasons, including:
We know of them, but we don't see many notifications about them.
Support not needed at this time
Unknown if all faculty are aware these are offered.

Participation with FEMA Higher Ed

Approximately 89 programs responded to questions regarding their participation in the FEMA Higher Ed program's in-person activities. The majority of respondents 60% (n=89) have participated in the FEMA Higher Ed Symposium, while only 15% were unaware of the opportunity. The majority of respondents (n=85) were also aware of the FEMA Higher Ed focus groups (38%) and the FEMA Higher Ed Special Interest Groups (48%, n=89).

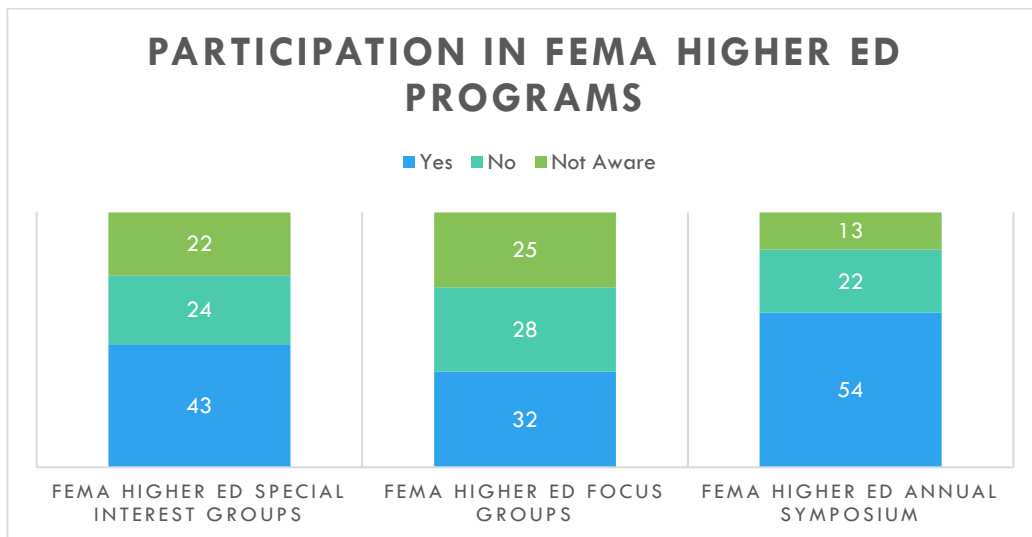


Figure 15: Participation in FEMA Higher Ed Programs

For respondents that have previously attended the FEMA Higher Ed Annual Symposium, they were subsequently asked how often they have attended. Approximately a third of representatives attend the symposium most years (33.3%) or have only attended every year (31%).

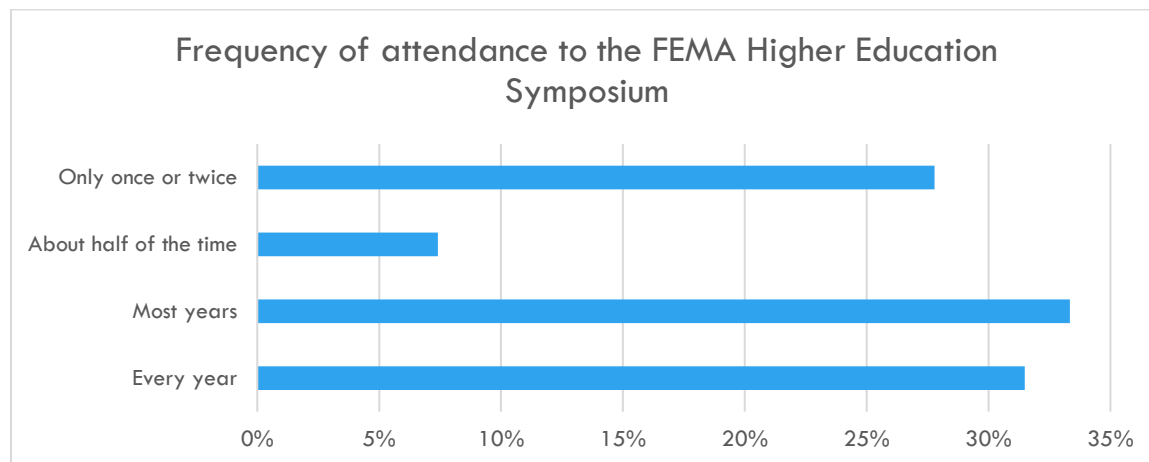


Figure 16: Percentage of respondents who attend the FEMA Higher Ed Symposium by frequency.

Regarding the FEMA Higher Ed Special Interest Groups, 47% (n=45) are interested in receiving more information, and approximately 24% are interested in joining. Similarly, a majority of respondents (49%, n = 47) are interested in more information about FEMA Higher Ed Focus Groups, and 23% are interested in joining.

Ideas for different offerings

Respondents were asked open-ended questions about ideas for products, activities, and services they would like to see from the FEMA Emergency Management Higher Education Program. Many would like to see changes around the learning materials, updates to the web resources and curriculum guides (n=28). Other were interested in student resources, and several respondents were interested in funding related opportunities. Some of their responses are below:

- “Higher Education College courses are dated and need to be updated”*
- “Supplemental curriculum materials such as videos, simulations, games, TTX for students, etc.”*
- “Summer internships rather than 10-month commitment with FEMA Corps [for students]”*
- “Virtual working groups, collaborative research, annual virtual conference in addition to the summer symposium...”*
- “I like how the Higher Ed conference is placing more emphasis on research”*
- “Fund Collaboration and data sharing opportunities through FEMA...”*
- “More grant opportunities”*

Response by Program Type

There were differences in the responses based on the type of degree offered. In this section, the differences are reviewed separately based on U.S.-based programs that provide undergraduate degrees (certificates and concentrations at the associates and bachelor’s level included) and those that offer graduate degrees (certificates, concentrations at the master’s and doctorate degrees included). Note that in the separate analysis performed below, there is some overlap. Several programs offer both undergraduate and graduate degrees; therefore, their response was reported in both sections.

Undergraduate

The majority of the programs offer undergraduate degrees in emergency management (n=106). According to the CIP taxonomy, the undergraduate programs were overwhelmingly coded 43.0302 Crisis/Emergency/Disaster Management (n=41). The second highest coding was 43.0301 Homeland Security (n=28). The primary orientation of the undergraduate programs was the public sector, 48% (n=69).

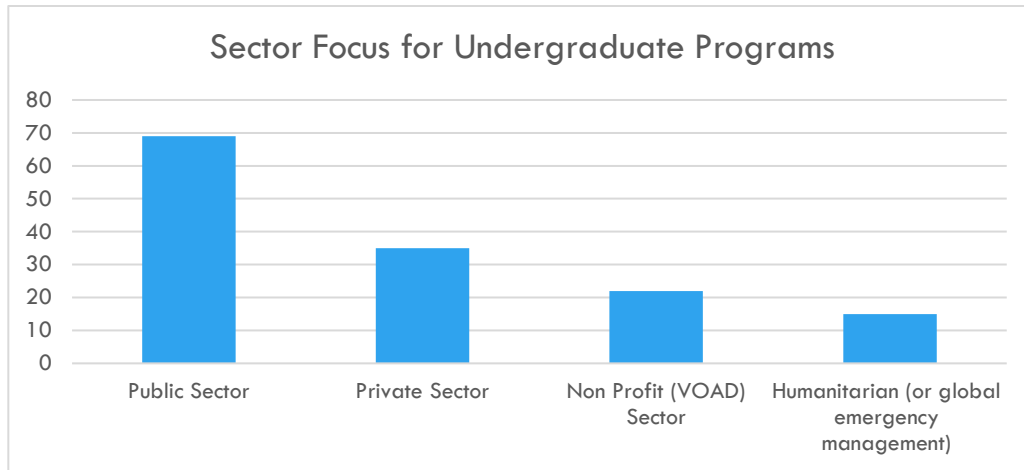


Figure 17: Sector focus of undergraduate programs.

The majority of the programs, 66% do not plan to develop a new curriculum (n=46). Of those planning to create new courses, they indicated the following: Information Science, adding homeland security component, gaming concentration, cybersecurity, health concentration, certificates in EM and cyber, and completing construction on a \$2 million simulation facility

With 58 program reporting, most have been in existence between 5 and 10 years (36%). Figure 18 shows that only 20% of the programs have existed for longer than 15 years. There are still over 20% of new programs existing for five years or less.

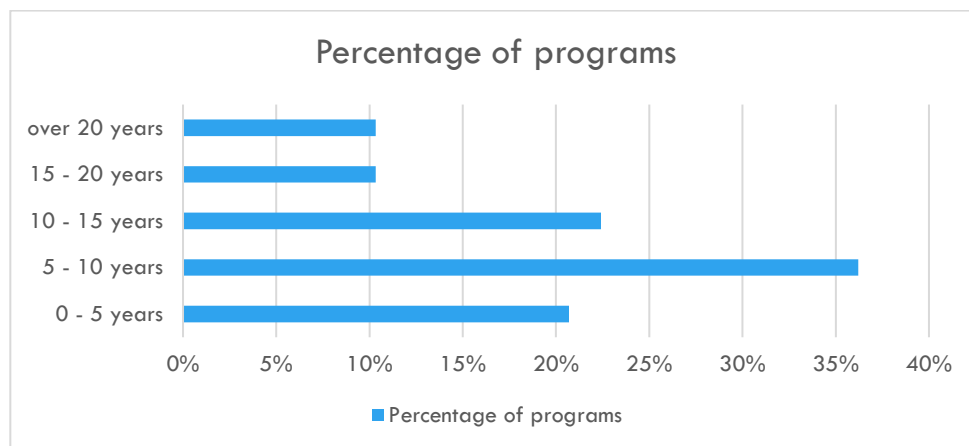


Figure 18: Years in existence for undergraduate programs

Over 93% of programs indicated they offer coursework in some form of distance online education (n= 72). Figure 19 shows over 65% of undergraduate programs offer nearly 100% of

their coursework online. Almost 38% of programs offer the majority of their course work both online and in person.

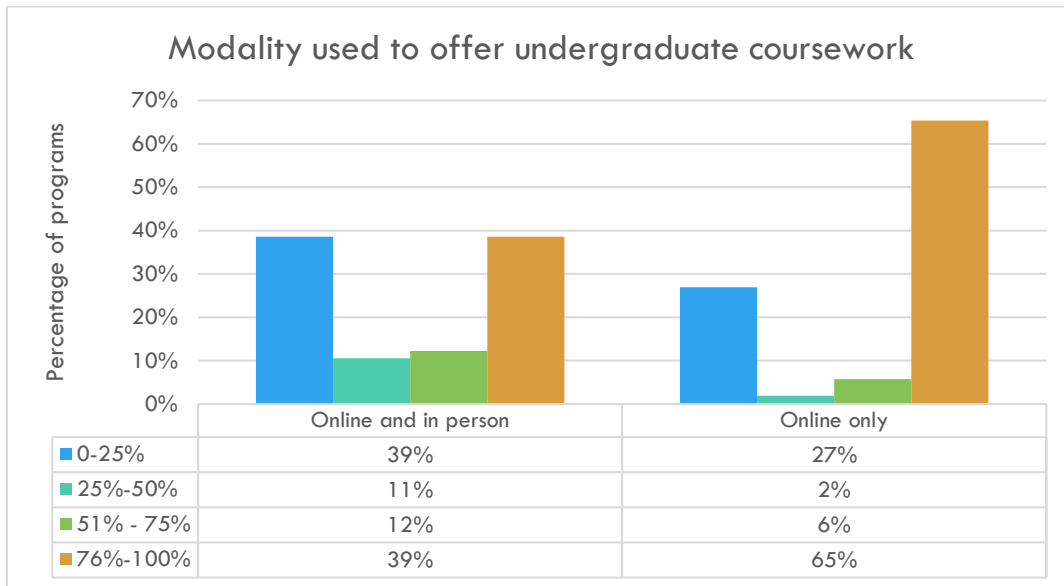


Figure 19: Modalities used to offer undergraduate curriculums.

Most undergraduate programs rely on part-time faculty. The average percentage of faculty in undergraduate programs is 61% part-time, 13% full-time non-tenure track, 16% full-time tenure or tenure track, and 10% affiliated or associate faculty. Nearly 47% of programs hired new faculty and staff, approximately 54% were part-time, and 46% were full-time.

Responding programs (n=68) indicated external funding (22%), were inaccessible to their program. Most noted that internal funding was at least slightly accessible to their program (42%). Likewise, institutional administrative support was at least somewhat available for most programs (73%). Local (85%), state (62%), national (57%), FEMA-specific (54%), and DHS-specific (38%) emergency management community support resources were all mostly accessible. Note that over 30% of respondents were neutral regarding access to external funding, access to institutional funding, national emergency management support, FEMA-specific, and DHS specific emergency management community support, 39%, 30%, 34%, 31%, and 46%, respectively.

Specific to programs offering Associates degrees, 70% do not utilize the prototype for Associates degrees in Emergency Management as part of their curriculum (n=20). The most popular FEMA Higher Education resource among all undergraduate programs were the independent study courses (24%), followed by the principles of emergency management document (21%) and the journal articles (21%). The Higher Education Courses were used approximately 12% of the time, their top eight rankings follow:

National Incident Management System (NIMS)	9.47%
Building Disaster Resilient Communities	7.37%
Breaking the Disaster Cycle: Future Directions in Natural Hazard Mitigation	6.32%
Business Crisis and Continuity Management	6.32%
Social Dimensions of Disaster	6.32%
Disaster Response Operations and Management	5.26%

Sociology of Disaster	5.26%
Social Vulnerability Approach to Disasters	5.26%

Most of the programs that do not use the principles of emergency management document have prior knowledge of the material (81%). Most of the program representatives that do not attend the webinars were unaware of them (34%). Most representatives have not participated in the FEMA Higher Ed Focus group (40%). The majority (62%) have attended the symposium, and 48% have participated in the Special Interest Groups. The majority of those who were not aware of the FEMA Higher Ed Special Interest Groups (45%) and FEMA Higher Ed Focus Groups (48%) are interested in receiving more information.

Graduate

Forty-five programs in this survey offer masters or doctoral degrees in emergency management or related fields. Nearly 36% were coded 43.0302 Crisis/Emergency/Disaster Management, according to the CIP taxonomy. The second highest coding was 43.0301 Homeland Security (20%), and the third was 43 Homeland Security, Law Enforcement, Firefighting, and related protective services (14%). The primary orientation of graduate programs was the public sector (41%); the secondary industry was private (25%).

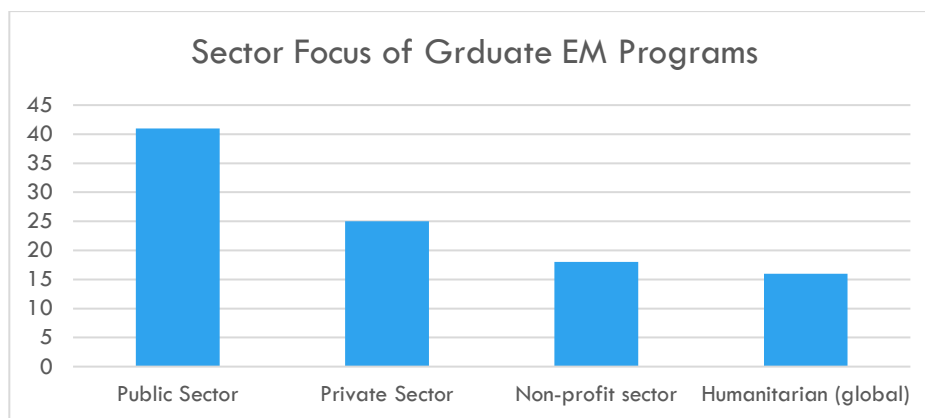


Figure 20: Sector focus of graduate programs

All of the graduate programs offered a master's degree, 7% provided a doctorate. Like undergraduate programs, the majority (70%) are not planning on developing a new curriculum. Those planning on developing new courses indicated the following: adding a doctoral program, offering curriculum in cybersecurity, or offering certificates related to health.

With thirty-five programs reporting, the majority of them (31%) have offered EM curriculum between 10 -15 years. Nearly 29% of the programs have offered EM curriculum between 5 -10 years.

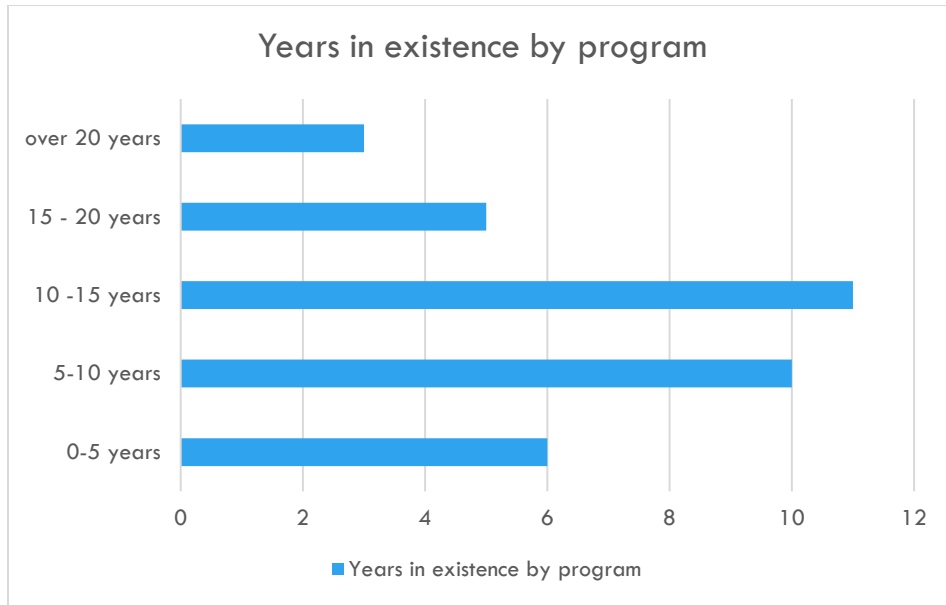


Figure 21: Years offering EM curriculum for graduate programs

Even at the graduate level, the majority of the programs (93%) offered curriculum online (n=45). Nearly 77% of the programs offered most of their coursework online only, and approximately 39% of the programs offered most of their coursework both online and in-person.

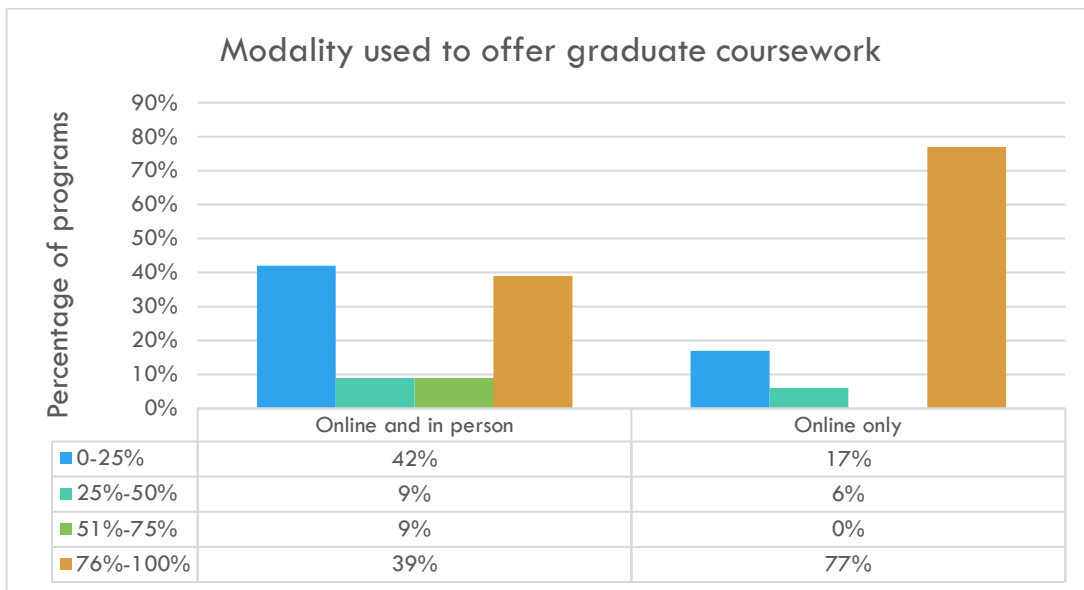


Figure 22: Modalities used to offer graduate coursework.

Nearly 47% of graduate programs have not observed an increase in diversity among the student body, where 40% did see an improvement. Only one program reported a decrease in diversity among graduate students. The average percentages across a wide range of diverse populations show the following: 43% women, 55% non-traditional college students, 29% first-generation college students, 20% Hispanic/Latino, 29% military students, 18% Black/African American, 11% international students, 2% American Indian or Alaska Native, 10% Asian, 1% Native Hawaiian or Pacific Islander.

Most of the graduate programs (55%) track their students' employment post-graduation (n=45). Of the programs that track employment, 44% of their graduates find positions in the public sector, 27% in the private sector, 10% in the humanitarian area, and 18% in the non-profit sector. Nearly 57% of the graduate programs have seen an increase in enrollment over the past three years, and 70% expect to see an increase in enrollment over the next three years. Most of the programs have either seen a rise in graduates over the past three years (48%) or no change in students graduating (48%). Majority of those responding expect an increase in the number of graduates over the next three years (64%).

Similar to the undergraduate programs, at the graduate level, most programs rely on part-time faculty. The average faculty in graduate programs vary by type: approximately two full-time tenure-track, four full-time tenured, five full-time faculty non-tenure track, 25 part-time faculty, and ten associated faculty. About 42% of graduate programs hired new faculty and staff. Of those reporting who they hired (n=34), approximately 53% were part-time, and 47% were full-time.

Responding programs (n=42) indicated that external funding (26%) and institutional funding (24%) were extremely inaccessible. However, most indicated that library resources (86%) and administrative support (69%) were at least slightly accessible. Likewise, most programs indicated that local emergency management community support (76%), state emergency management community support (64%), national emergency management community support (62%), and FEMA specific support (57%) have been accessible. Most of the responding programs were neutral about DHS specific support (48%).

The most popular FEMA Higher Education resource was the principles of emergency management document (23%), and the journal articles available online (19%). Twenty-two programs used the Higher Education Courses; the top seven rankings were as follows:

National Incident Management Systems (NIMS)	6.30%
Breaking the Disaster Cycle: Future Directions in Natural Hazard Mitigation	5.51%
Building Disaster Resilient Communities	5.51%
Disaster Response Operations and Management	5.51%
Technology and Emergency Management	5.51%
Catastrophe Readiness and Response Course	4.72%
Terrorism and Emergency Management	4.72%

Half of the programs that do not use the principles of emergency management document had prior knowledge of the material (50%). Most of the program representatives that do not attend the webinars were not aware of them (47%). Most representatives have participated in the FEMA Higher Ed Symposium (63%), focus groups (40%), and the special interest groups (50%). Of those who were not aware of the special interest groups, most would like more information (40%). Similarly, nearly 41% are interested in more information about the focus groups.

International Programs

Eight institutes of higher education from countries outside of the US responding to the survey, representing nine programs. The majority of the programs have offered EM curriculum between 5-10 years, and two programs have offered programs for more than 15 years. Most programs represent more than one focus area; public sector (n=7) private sector (n=3), the non-profit sector

(n=3), and humanitarian (global EM) (n=2). The nine international programs have several offerings, as shown in Figure 19.

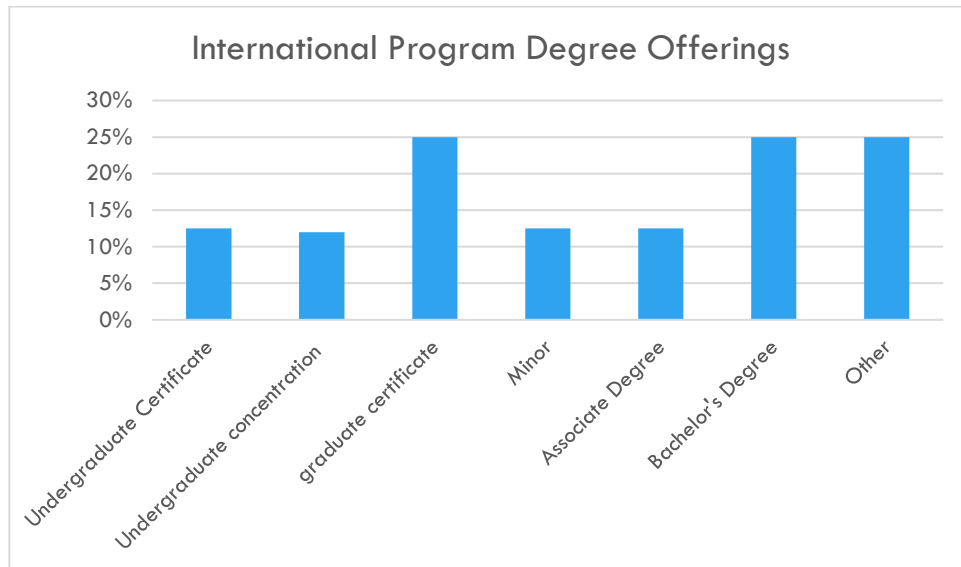


Figure 23: International program degree offerings

A little over half of the international programs plan to develop new programs over the next year (57%). Several were interested in developing masters-level degrees, and at least one was interested in adding courses on Technology and EM. Nearly 67% of the international programs offer the majority of their coursework online only (n=7), between 76%-100% of the curriculum.

Approximately 315 students have graduated from these international emergency management programs. Nearly 71% of the international programs track their graduates' employment post-graduation. Of those that track students, approximately 58% of the graduates secure positions in the public sector, 16% of graduates in the private sector, 14% in the non-profit area, and 13% in the humanitarian sector.

Most of the programs have seen an increase in enrollment over the past three years (n= 4) and anticipate an increase in enrollment over the next three years (n=4). Nearly half of the programs have seen no change in the number of graduates in their program (n=3). However, most programs anticipate an increase in graduates over the next three years (n=4).

The international programs rely primarily on part-time faculty. Nearly 30% of full-time non-tenured faculty, 50% of part-time faculty, 2% full-time tenured and 18% affiliated faculty. Nearly 43% of the programs hired new faculty or staff in the past year (n=3), all hired for a part-time position.

International programs anticipate an increase in student enrollment and new faculty positions over the next year. One expects a decrease in student enrollment. A few of the international programs also anticipate a restructuring of the program.

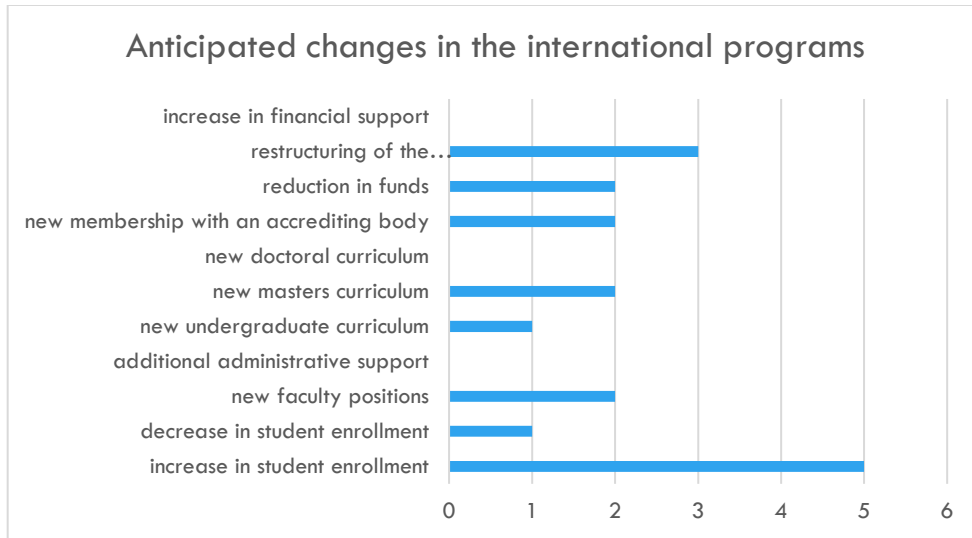


Figure 24: Anticipated changes in the international programs

Similar to US programs, International programs were also impacted by the Coronavirus pandemic. Most have seen an increased interest in their program from the university administration. Several have seen hiring freezes of faculty and staff, move to remote instruction, and increased interest in the program from students. Figure 25 outlines the current changes.

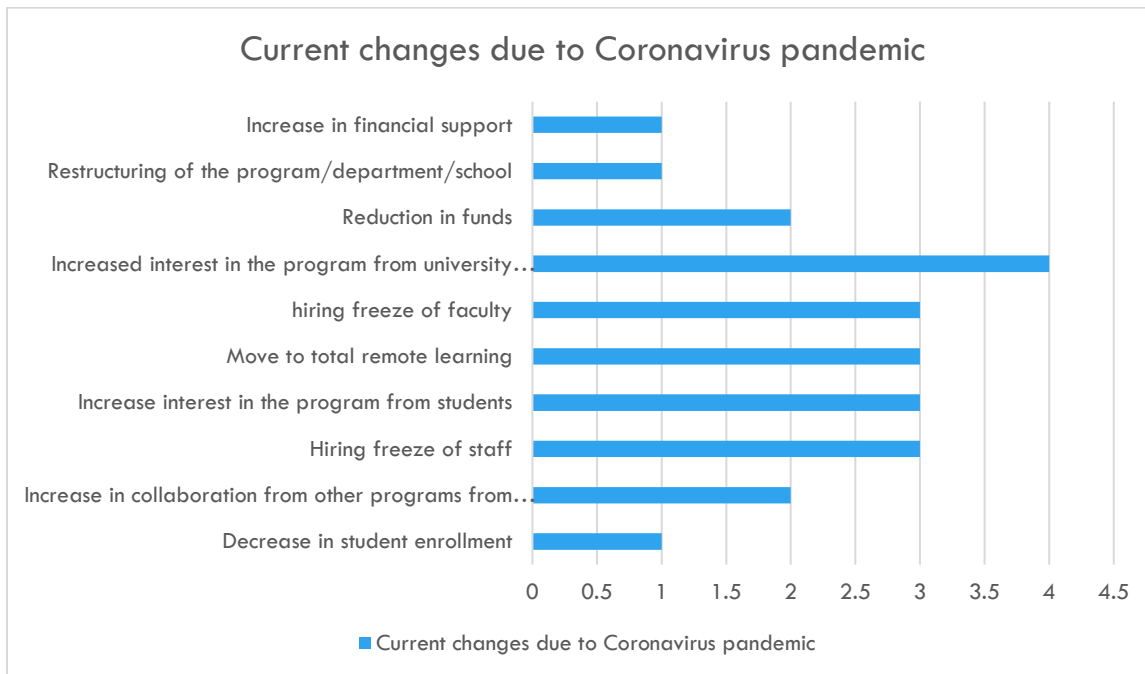


Figure 25: Current changes to international programs due to the Coronavirus pandemic

The international programs also anticipate changes in their program, at least in the short term, because of the pandemic. Three programs anticipate an increase in enrollment; two anticipate a decrease in enrollment, two anticipate offering a new undergraduate curriculum. The programs

were also asked about their metrics for success; most use the number of graduates as one such metric.

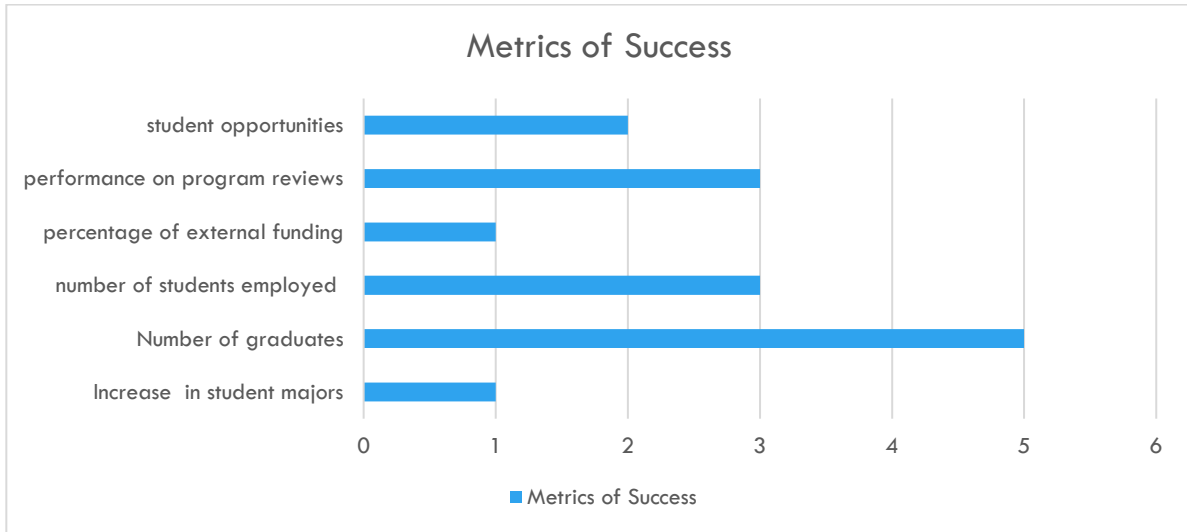


Figure 26: Metrics of success for international EM programs

The international programs contacted were identified from the FEMA Higher education database as having a connection with the FEMA Higher Education Program. As such, international respondents were asked questions regarding their use of the FEMA-related resources online. As shown in Figure 26, most of the programs use the Journal Articles and the Principles of Emergency Management Document. Two of the programs haven't used any of the resources discussed in this survey.

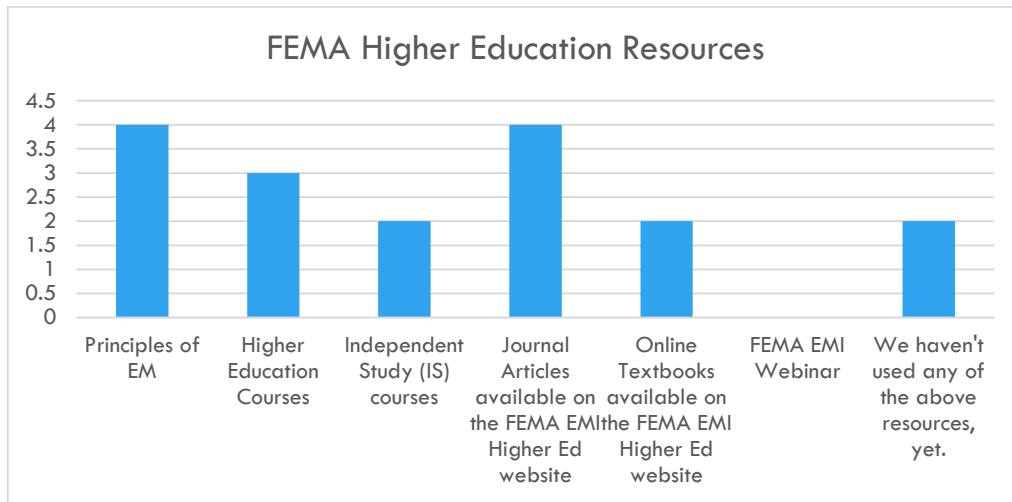


Figure 27: Use of FEMA Higher Education Resources by international programs.

Over 70% of the programs indicated they used the Higher education programs. Specific survey questions indicated that only used five of the FEMA Higher Education courses were selected by international programs, equally as listed below:

Comparative Emergency Management	16.67%
Disaster Response Operations and Management	16.67%
Emergency Management Principles and Application for Tourism, Hospitality and Travel Management	16.67%
Hazards Risk Management	16.67%
Homeland Security and Emergency Management	16.67%
National Incident Management Systems Course (NIMS)	16.67%

Half of the programs had participated in the FEMA Higher Ed Symposium. None of the international programs have participated in the FEMA focus groups. Two of the programs have participated in the FEMA Special Interest Groups. Two programs are interested in receiving more information about the focus groups.

Discussion

Given the timing of this survey amid COVID-19 response (April of 2020), the response rate was remarkable. More representatives responded to the survey this year than last year (the response rate was 1% higher). Though the survey was longer than often recommended, most of the respondents took less than 20 minutes to complete the survey.

The majority of the programs represented in this survey have over five years' experience providing EM curriculum. Nearly half of the programs have been in existence for more than ten years. The programs are still varied in terms of their academic homes, and for one of the first times, fewer programs used emergency management in their title than in the previous years. However, the CIP codes show that 43.0302 Crisis/Emergency/Disaster management was the leading typology for the programs, and most programs prepare students for employment in the public sector. Increasingly, the programs are offering some percentage of their coursework online. Experience is critical, and while it continues to grow, programs have consistently offered emergency management related curriculum.

Students are genuinely attracted to these programs. The number of students who have graduated, often used as a metric of success for the programs, show overall growth, with over 61,000 graduates. Most programs also anticipate an increase in student enrollment, new faculty positions, and potential restructuring of their program. Of the programs, 40% offer bachelor's degrees, and 33% offer master's degrees. While these programs continue to grow, in terms of students graduated, the student body's diversity has not grown in step with regard to racial and ethnic minorities.

To maintain academic programs, access to support and resources is essential. According to the responses, most of the programs rely on part-time faculty, generally with practitioner experience. One trend over time has been a reduction in the number of full-time tenure track faculty. There are new trends with regard to internal and external support. Library resources and administrative support have been generally accessible, as have been support from the local EM community. Several programs were neutral on many of the questions related to support. A small number of programs are undergoing new challenges in trying to maintain student enrollments and in implementing a new curriculum. Many programs reported anticipating an increase in student enrollment, new undergraduate curriculum, and new faculty positions before COVID-19.

Most of the programs use at least one of the FEMA Higher Ed online resources. The most popular being the Independent study courses, Principles of Emergency Management Document, and the

journal articles. The least used resources were online textbooks and webinars. Many were not aware of the webinars or thought they occurred at inconvenient times. The majority of the representatives attend the FEMA Higher Ed Symposium, and most have participated in the special interest groups. Nearly a third have been involved in the focus groups. The symposiums are extremely popular, with the majority attending annually or most years.

COVID-19 has produced a lot of new challenges and unknowns for the programs. While many moved to temporary remote learning, questions abound from new reports on how to return to face-to-face courses in the Fall, and with how to do more with less given the number of programs reporting hiring freezes for both faculty and staff at their IHD. Though COVID-19 has sparked concern with regards to students' interest in IHE, some programs have experienced an increased interest in their programs from students and their university administrators. This interest is likely due to the importance of this curriculum and research.

Conclusion

The programs have more experience increasingly, with approximately 80% offering EM curriculum for over five years. As many programs use the number of graduates as a metric of success, the programs have been successful and have had growth. Annually there has been an increasing number of graduates from EM programs over sixty thousand students. A few programs were having challenges; however, COVID-19 has produced an additional set of new challenges for many programs. The pandemic has caused a disaster of epic proportions in terms of casualties, economics, and in its long, protracted nature. As we continue to learn more about the virus and the impacts, there are currently a lot of unknowns. This may be a vulnerable time for many IHEs in the short term. But, it may be a unique time for EM programs because,

"Vulnerability is the birthplace of innovation, creativity, and change."

– Brené Brown

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Appendix I: List of Participating Institutions

American InterContinental University
American Public University
Anderson University
Arapahoe Community College
Arkansas Tech University
Azusa Pacific University
Ball State University
Bellevue University
Bergen Community College
Bethel University
Blue Ridge Community College
Boston University, School of Medicine
Bucks County Community College
Brandon University
British Columbia Institute of Technology
Caldwell Community College
California Maritime Academy
California State University, Long Beach
California University of Pennsylvania
Cape Breton University
Central Queensland University
Coastal Carolina Community College
College of Southern Maryland
College of the Mainland
Columbia International University
Community College of Allegheny County
Delaware Technical and Community College
Des Moines Area Community College
DeSales University
Durham Technical Community College
East Carolina University
Eastern Kentucky University
Eastern New Mexico University
Elizabeth City State University
Embry Riddle Aeronautical University
Fayetteville Technical Community College
Florida Memorial University
Florida State University
Frederick Community College
Georgetown University
Guilford Technical Community College
Hesston College
Indiana University, Kokomo
Jackson State University
Jefferson University
John Jay College, City University of New York
Johns Hopkins University
Keiser University, Graduate School
Lander University
Lee University
Massachusetts Maritime Academy
Mercer University's Penfield College
Metropolitan College of New York
Middlesex Community College
Millersville University of Pennsylvania
Nash Community College
National University
Neumann University
Northern Alberta Institute of Technology
Northern Kentucky University
North Dakota State University
Northeastern State University
Northern Arizona University
Northwest Missouri State University
Nova Southeastern University
Ohio State University
Park University
Pennsylvania College of Technology
Pennsylvania State University
Post University
Prairie View A&M University
Prince William Sound Community College
Purdue University Global
Red Rocks Community College
Rose State College
Ryerson University
Saginaw Valley State University
Saint Louis University

Saint Michael's College
Sam Houston State University
San Diego State University
San Jose State University
Southwestern College
Southwestern Indian Polytechnic Institute
St. John's University
State University of New York, Albany
State University of New York Broome Community College
Texas A&M University
Thomas Edison State University
Tiffin University
Truckee Meadows Community College
University of Akron
University of Central Missouri
University of Colorado at Boulder
University of Denver
University of Florida
University of Hawaii, West Oahu
University of Idaho
University of Illinois at Chicago
University of Maryland University College
University of Maryland, Baltimore County
University of Massachusetts Lowell
University of Nebraska at Omaha
University of Nevada at Las Vegas
University of New Hampshire at Manchester
University of New Haven
University of New Orleans
University of North Texas
University of North Carolina at Pembroke
University of South Carolina
University of South Florida
University of Texas Rio Grande Valley
University of Washington
University of Wisconsin Oshkosh
Utah Valley University
Vincennes University

Virginia Commonwealth University
Waldorf University
Western Carolina University
Western Washington University
Wheaton College