



Stony Brook University

The President's Council of Student Advisors
Stony Brook University
Stony Brook, NY 11794-0701
Office of the President

June 11, 2021

Maurie McInnis, PhD
President, Stony Brook University
310 Administration Building
Stony Brook, NY 11794-0701

Dear President McInnis,

The President's Council of Student Advisors submits this Final Report to you after a comprehensive investigation of the impacts of COVID-19 on the job market, and its effects on the career development of students at Stony Brook University. Our research includes an examination of key student, alumni, and faculty perceptions and concerns surrounding the pandemic in multiple different departments. Based on the conclusions of this research, the Council has devised recommendations for the Stony Brook University Administration to consider regarding actions to be taken to help equip students with the proper resources to succeed in their intended careers post-COVID.

This Final Report outlines in detail how the Council has: 1) Gathered quantitative and qualitative data regarding, student-athletes, engineering students, undergraduates, alumni, and graduate students, 2) Analyzed the importance of interdisciplinary skills and how they correlate to career success 3) Taken into account the disproportionate effects the pandemic has had on disadvantaged students 4) Ensured that the recommendations made by the Council are both feasible as well as beneficial to the campus community.

Your consideration of this Final Report is greatly appreciated.

Sincerely,
The President's Council of Student Advisors



The President's Council of Student Advisors
Office of the President
Stony Brook University
Stony Brook, NY, 11794

THE IMPACT OF COVID-19 ON THE JOB MARKET

An analysis on student career development in the post-pandemic world

A Final Report submitted to

Maurie McInnis, PhD, President
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Period of Investigation

2020-2021 Academic Year

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Introduction

The toll of COVID-19 and the impacts it has had on our lives are so far-reaching that we won't even know its true devastation until years down the line. However, what we do know is that the U.S. has seen a greater rise in unemployment in the 3 months of quarantine than it has in two years of The Great Recession (Kochhar) There has also been a significant rise in "telework" or working through your computer screens, as over half of employed Americans were now working from home. A 50% increase from 2017-2018 (Guyot and Sawhill 2020). The pandemic has revolutionized the job market, requiring many Americans to become well-versed in their jobs through a virtualized setting. Summer 2020 left 50 million Americans jobless (Kelly). So what does this mean for our students at Stony Brook? Well many of us have missed out on internships, study abroad programs, work experience, lab hours, standardized tests, and many more as a result of social distancing protocols. The world is changing, and it has now become our priority to identify these changes and equip our students with the tools necessary to thrive in such settings.

"Career Competencies," widely known as "soft skills," are the skills required to successfully perform a job. We had the opportunity to sit in on a workshop from *The Chronicle of Higher Education*, where they discussed the newfound importance of these skills as a result of the changes in the job market, and how most students have trouble transferring college-learned skills into the workplace. Mr. Sebastien Distefano, Adobe's global manager of strategic development, noted how employers are requiring that applicants possess these skills within our society's transition to telework and telecommuting. A portion of our project has been focused on these skills, and ways to implement them into departments across the university.

Many of these skills are actually earned through working with other members from various disciplines on a single project, known as *interdisciplinary work*. Several of our nation's top academic leaders note a trend in higher education towards interdisciplinary education, as it has been proven to be extremely beneficial to career success. We believe that the pandemic has accelerated this need for interdisciplinary experience, as many departments have been in coordination with other specialties unrelated to their own to solve many complex issues brought on by COVID-19. This was another major focus as we researched various departments in Stony Brook.

Lastly, we realize the importance of considering the disproportionate effects of COVID-19 on minority populations, as well as economically disadvantaged students on campus. The last portion of our work has been designated to identifying the needs brought up by these groups and bringing solutions to those problems.

Materials, Methods and Surveys

Project Demographics

Student Athletes

- By surveying the student-athletes, we were able to better understand their demographic in terms of major of study and intended industry/career field.
- We also identified which services are currently available and their impact on student-athletes' ability to relate their athletic experience to job/career applicable skills.
- We will use this information to recommend programs/services to implement to improve life skill development.

Engineering Students

- By researching engineering students, we were able to understand what students were facing and how to better handle post-graduation careers, especially amidst this global pandemic of COVID-19.
- Another goal was to provide exposure for Engineering Students to enhance their communication & interdisciplinary skills for their intended careers

Undergraduate Students

- Our aim was to assess the current career services and resources that enable *all* students to explore careers, access internships and advisement, network, develop essential skills, and pursue their career goal
- We also set out to educate all undergrad students with the necessary Career Competencies necessary to succeed in this changing job market, as well as the importance of interdisciplinary work as a result of the pandemic.

Alumni

- The goal of this area was to understand the connection between what skills were acquired by students during their time at the university and how as alumni, these skills are considered useful.
- In addition, we explored what changes could be made to better equip upcoming graduates to the post-COVID workforce

Graduate Students

- The goal of researching graduate students was to understand what programs are currently in place to equip students to succeed in their intended careers, and programs have changed as a result of the pandemic.
- We also examined which areas needed improvement, and provided solutions on how to tailor those areas to the new changes seen as a result of a changing job market.

Data Acquisition

Our data collection was conducted in 2 ways: *Qualtrics surveys and Focus groups*. Qualtrics surveys were designed by the COSA group under the guidance of Ahmed Belazi as well as topic specialists in each demographic. We conducted two main surveys: Mid-Year and End-Year. For the Mid-Year each demographic sent out a survey to their intended group -- surveys consisted of multiple choice and short response questions. For the End-Year the same procedure was followed, however, focus groups were conducted with members of each demographic (such as student athletes participating in the Student-Athlete Focus Group) where we asked a new set of questions. Questions from each survey and focus group can be found in the Appendix and Results can be found within each section.¹²³

Job Fair Surveys

With the help of Dr. Marianna Savoca and the rest of the Career Center, we were able to conduct surveys at the alumni and undergraduate job fairs during the summer 2020 and fall 2020 job fairs respectively. Our surveys were given to employers and students joining the fairs, and our goal was to assess the state of Stony Brook students in relation to Career Competencies and work with Career Services to further develop these skills.

¹ Short response questions received dozens of responses, so the main ideas from each response are included in the results.

² Some questions/results were omitted from the results due to irrelevance to the overall project. However, each question can be located in the Appendix.

³ Any inquiries regarding survey data can be directed to cosa@stonybrook.edu

Results

Job Fair Survey Data

The Stony Brook University Career Center utilizes a framework of 8 key skills to prepare students for employment: Critical Thinking/Problem Solving, Oral/Written Communication, Teamwork/Collaboration, Digital Technology, Leadership, Professionalism/Work Ethic, Career Management/Self-Awareness, and Global/Intercultural Fluency (“Career Competencies”). Many of these skills – known as career competencies – overlap with so-called soft skills. Whereas hard skills center around measurable knowledge such as proficiency in programming or multilingualism, soft skills are habits or traits that shape the way you work (“Hard Skills vs. Soft Skills”). With this criteria in mind we requested data from the alumni (for those just graduated in Spring 2020) summer job fair and the fall undergraduate job fair during the 2020 academic year. In these surveys we asked both those job candidates and employers their views on the following questions:

- Which Career Competencies Do Students Think Will Help Themselves Succeed?
- Which Career Competencies Do Employers Think Will Help Students Succeed?
- How Prepared Do Students Feel To Succeed In A Post-Covid Environment?

In total we collected 112 responses from students and 45 responses from employers.

Fall 2020 COSA Career Competency Student & Employer Report

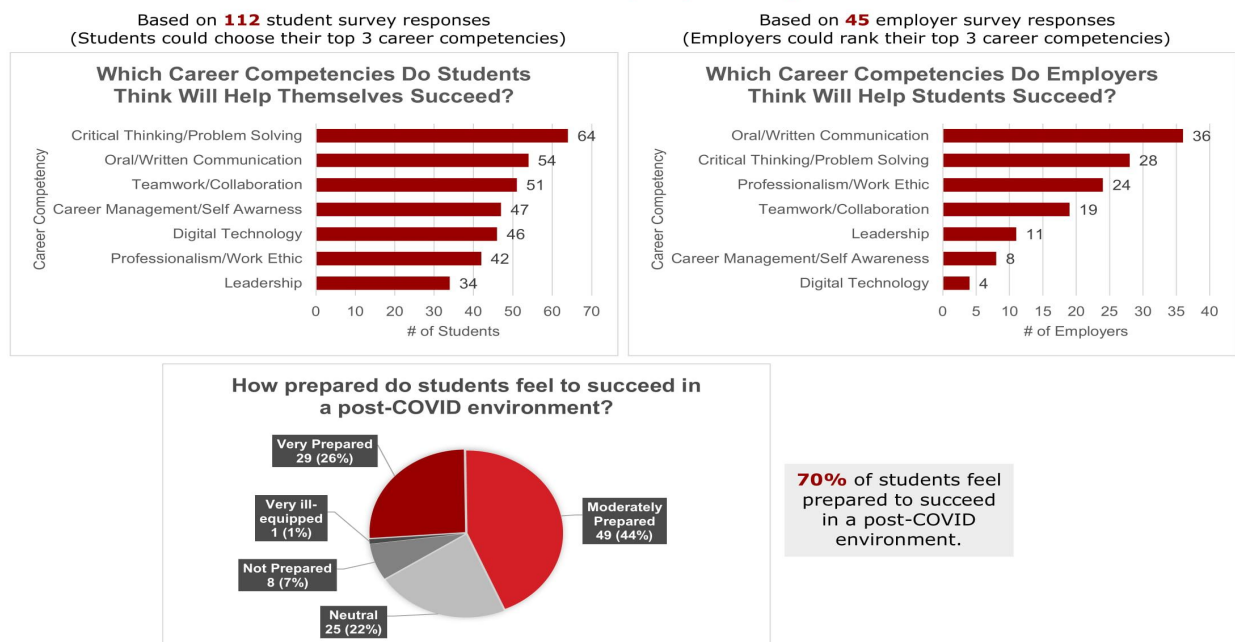


Figure A1 : Career Competency Survey Report

From Figure A1 it can be shown that the majority of students and employers agree with small variations of the top three competencies that are needed for success being Oral/Written Communication, Critical Thinking/ Problem Solving, and Teamwork/Collaboration.

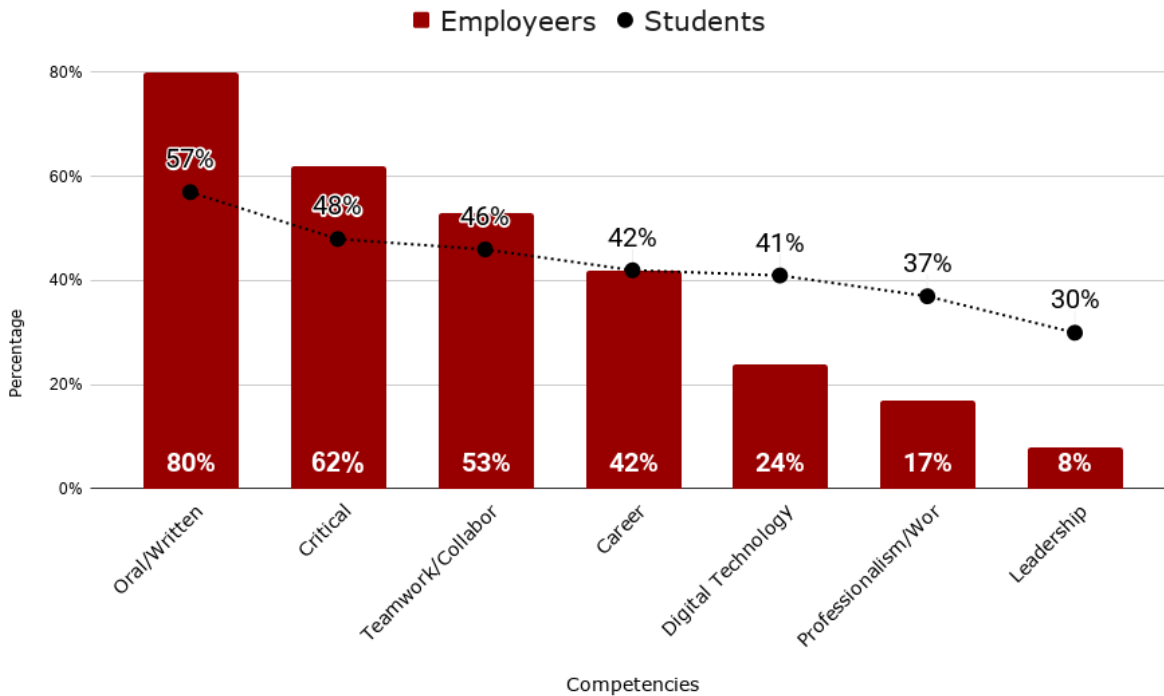


Figure A2 : Differences in ranking between employers and students

However shown in Figure A2 the other competencies such as Leadership and Digital Technology faced major discrepancies at 28% and 17% respectively. In the Alumni section of this report there will be further discussion on the discrepancies shown between employers and alumni in regard to digital technology due to its importance for the workforce post-COVID.

Student Athletes

The purpose of studying student athletes is to be able to highlight programs and opportunities offered by their life skills staff as well as delve further into understanding the needs of this student demographic. We aim to identify what career development services are currently available to student athletes and how the programs impact their ability to relate their athletic experience to career applicable skill development. A survey was sent out to student athletes asking questions related to career development, but unfortunately yielded no results. A focus group was hosted during a student athlete section of the Career Development course (CAR

110) to further understand the impact of life skills programs on student athlete career preparedness.

Fifteen student athletes engaged in a discussion about the programs and opportunities offered by life skills. Student athletes identified activities such as networking with alumni, learning from recruiters and engaging in mock interviews with potential employers as opportunities that impacted their sense of career preparedness. Students valued making connections with student-athlete alumni as well as active recruiters when engaging in career development due to the expertise of those leading the activities.

Student athletes felt that they were experienced with transferable skills such as teamwork, leadership, and communication both in their academic studies and experience as a member of an athletic team. Students highlighted that they felt unprepared for their intended career due to a lack of technical knowledge and skills specific to their major or intended career field. Many students were considering continuing education in order to gain more experience in their field. Students highlighted the desire for more career development courses beyond the CAR 110 and 210 sequence to increase their confidence and preparedness for life after graduation. Students also demonstrated a need for more contact persons for discussing career options and development as well as more frequent networking opportunities with student-athlete alumni in their intended field.

In order to assess the impact of life skill programs on student athlete career development, students were asked to rate their confidence in verbal and written communication skills. Students expressed they had more confidence in written skills, with an 8.5 average, due to activities in their CAR 110 course such as resume and cover letter writing as well as following up with potential employers via email. In relation to verbal communication, with an average of 7; students expressed they would like to develop these skills further via more frequent interviewing and networking.

Many students were eager to discuss career development opportunities but described the difficulties with attaining these opportunities. Student-athletes average 20 hours a week dedicated to athletics and their time is fixed to game and practice schedules as well as their academic and degree progress. Students expressed wanting to participate in micro and remote internships that would fit with their rigid and demanding schedules and allow them to develop further in external internships.

Engineering Students

Background

The goal of researching engineering students was to understand what the students are facing and how to better handle post-graduation careers, especially amidst this global pandemic

of COVID-19. It is also important to note any recommendations students may have in terms of how to better prepare them for their future. Engineering is a booming industry, especially with this pandemic, where the world is looking towards engineers to come up with unique solutions to new problems. Our engineering programs at Stony Brook University is also an integral part in outreach programs such as the Collegiate Science and Technology Entry Program (CSTEP) and Women in Science and Engineering (WISE) Honors Program, which are serving a greater purpose to create scientists and engineers who defy the stereotypes of the field of STEM.

Stony Brook University Engineering Students/WISE/CSTEP

Programs within the Stony Brook University College of Engineering and Applied Sciences (CEAS) do their best to prepare students for the professional world. Many of the academic programs within the College of Engineering and Applied Sciences teach students teamwork, communication skills, and technical skills in order to prepare students for their future careers in the field of STEM. Many of these skills are taught through courses, (such as the Vertically Integrated Projects (VIP) and Senior Design) that emphasize the teaching of skills such as complex problem solving and collaboration skills. CEAS also provides reminders to its students about internships and research opportunities in order to help students grow professionally. Engineering students can further excel within programs such as the Women in Science and Engineering (WISE) Honors Program and the Collegiate Science and Technology Entry Program (CSTEP).

The Women in Science and Engineering (WISE) Honors Program is advancing science and engineering by promoting the participation of women. The WISE Honors Program aims to help female undergraduate students at Stony Brook University who are studying in STEM-related fields and provide them with learning and support in order to help them succeed. WISE strives to aid its students with professional development through panel discussions, events, alumni networking, and workshops that seek to teach WISE students different professional skills such as resume writing and networking skills. Additionally, WISE students have mentors that assist students in finding potential career-building opportunities and can help students learn professional skills. WISE students also have to take courses within the WISE curriculum (WSE 105, WSE 201, WSE 380, WSE 381, WSE 401, WSE 495, and WSE 496) that teach soft-skills that are necessary for industry such as problem-solving, communication skills (written, oral, non-verbal), and teamwork.

The Stony Brook University Collegiate Science and Technology Entry Program (CSTEP) seeks to prepare historically underrepresented and economically disadvantaged Stony Brook University students involved in STEM-related fields. CSTEP helps students with professional development by providing them with leadership training through mentoring, academic and career advising, study groups and preparation for professional school exams, pre-professional internship placements on the University campus, and pre-freshman summer residential programs for credit and academic enrichment. These experiences allow students to develop professional and communication skills that are necessary for the professional world.

Engineering Students and Soft Skills

While recruiters for engineering jobs still look for technical skilled engineers, they also look at candidates that possess soft skills. Research has shown that the top five skills that engineering employers look for are technical skills, communication skills, interpersonal skills, problem-solving and critical thinking skills, motivation, and commitment. How these skills are achieved is through the methods of service-learning, “a form of project-based experiential learning where the students are engaged in the activity that meets the specific needs of a community or nonprofit organization.” and experiential learning through internships and jobs. Research also suggests that undergraduate engineering programs all teach students soft skills differently which results in disparities in the soft skills engineering students understand and practice

After assessing what skills students need in order to succeed in engineering jobs in a post-COVID19 environment, we aimed to conduct interviews within the departments of the College of Engineering and Applied Science (CEAS), the WISE Honors Program, and the CSTEP Program in order to learn how these academic programs are preparing their students for successful careers and ways to improve them. For the mid-year results, we conducted a Qualtrics Survey with a total student reach of 985 students over a twelve-day period and for the final results, we conducted two surveys (Qualtrics with a total student reach of 125 students over a twelve-day period and Focus Group with Google Forms Survey with a student reach of 50 students over a five-day period) amongst these three groups of students (CEAS, WISE, and CSTEP) in order to determine what skills they have learned through these programs, the initiatives put in place during COVID-19 to help with professional development, and any recommendations or improvements that could be made for the future of these programs.

Mid-Year Results

Q1 - What skills do you think are crucial to your success in finding work? Select all that apply.

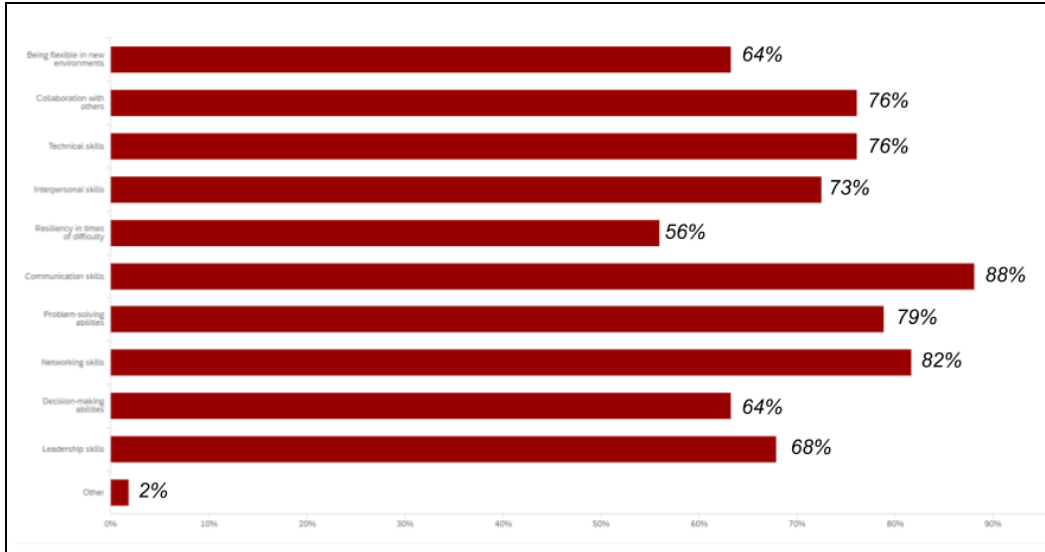


Figure C1 - Crucial Skills necessary in the workplace

Q2 - What skills have you acquired at Stony Brook University? Select all that apply.

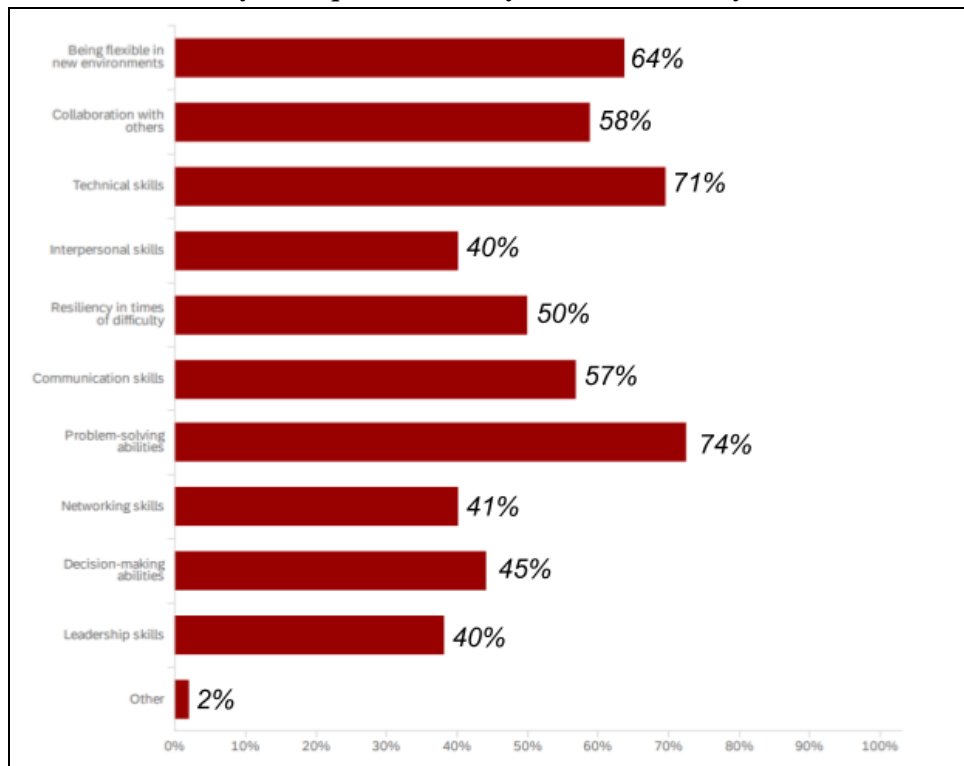


Figure C2 - Skills Acquired at Stony Brook University

Q3 - Does your primary academic department offer you opportunities to study and work with

other departments?

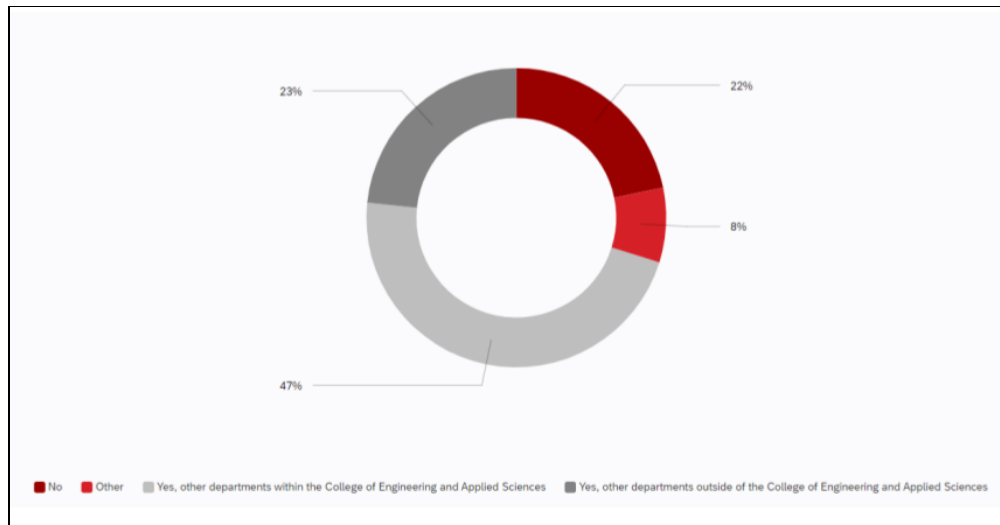


Figure C3 - Interdisciplinary opportunities in the departments

Q4 - Within the following situations, please rate the degree of concern you have for finding employment:

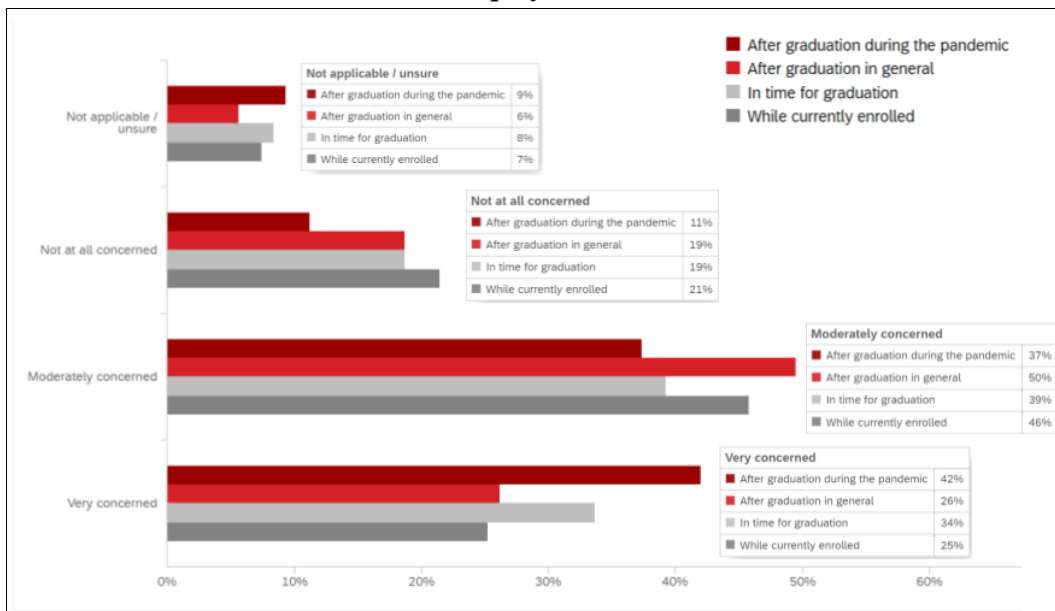


Figure C4 - Rate of concern in finding employment

Q5 - In what ways is the College of Engineering and Applied Sciences preparing you to find an internship or full-time job?

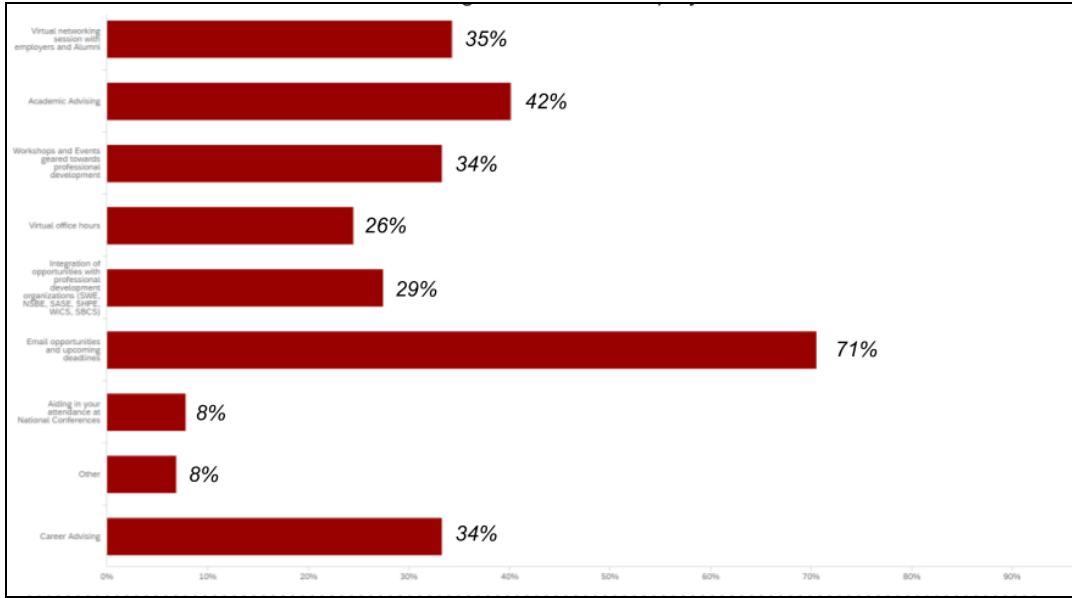


Figure C5 - CEAS internship and full-time job preparation

Q6 - Do you feel you are offered enough opportunities for the following?

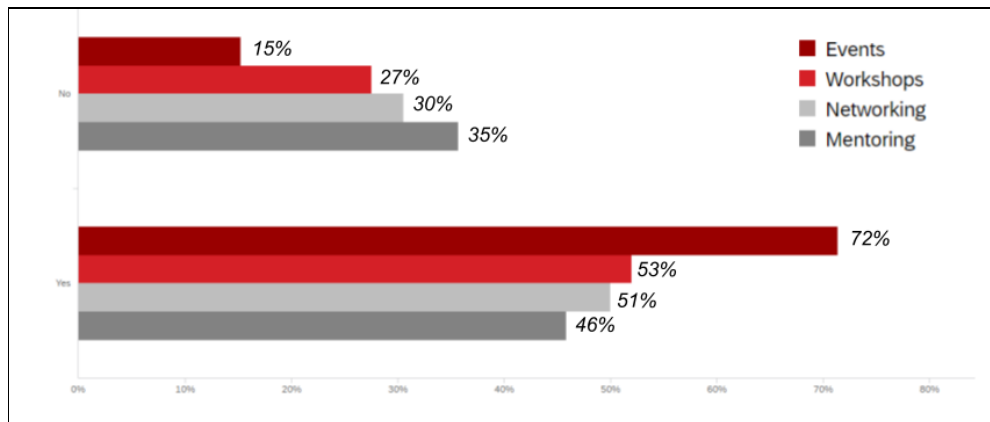


Figure C6 - Frequency of Opportunities Being Offered

End-Year Results

Please note that for each of these results, the Qualtrics Survey Results are shown first followed by the Focus Group Results below.

**Q1 - What skill(s) have you learned during your time at Stony Brook University?
Select all that apply.**

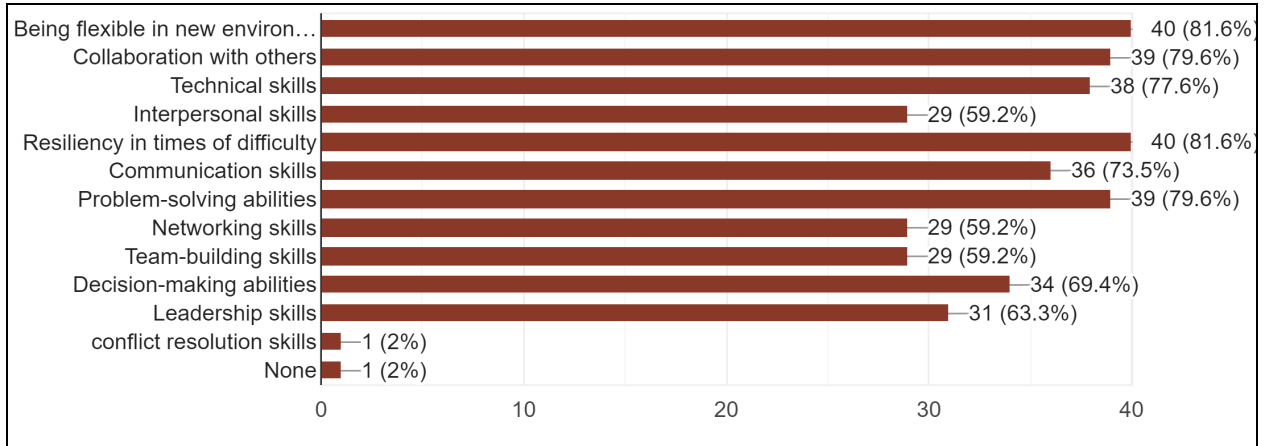
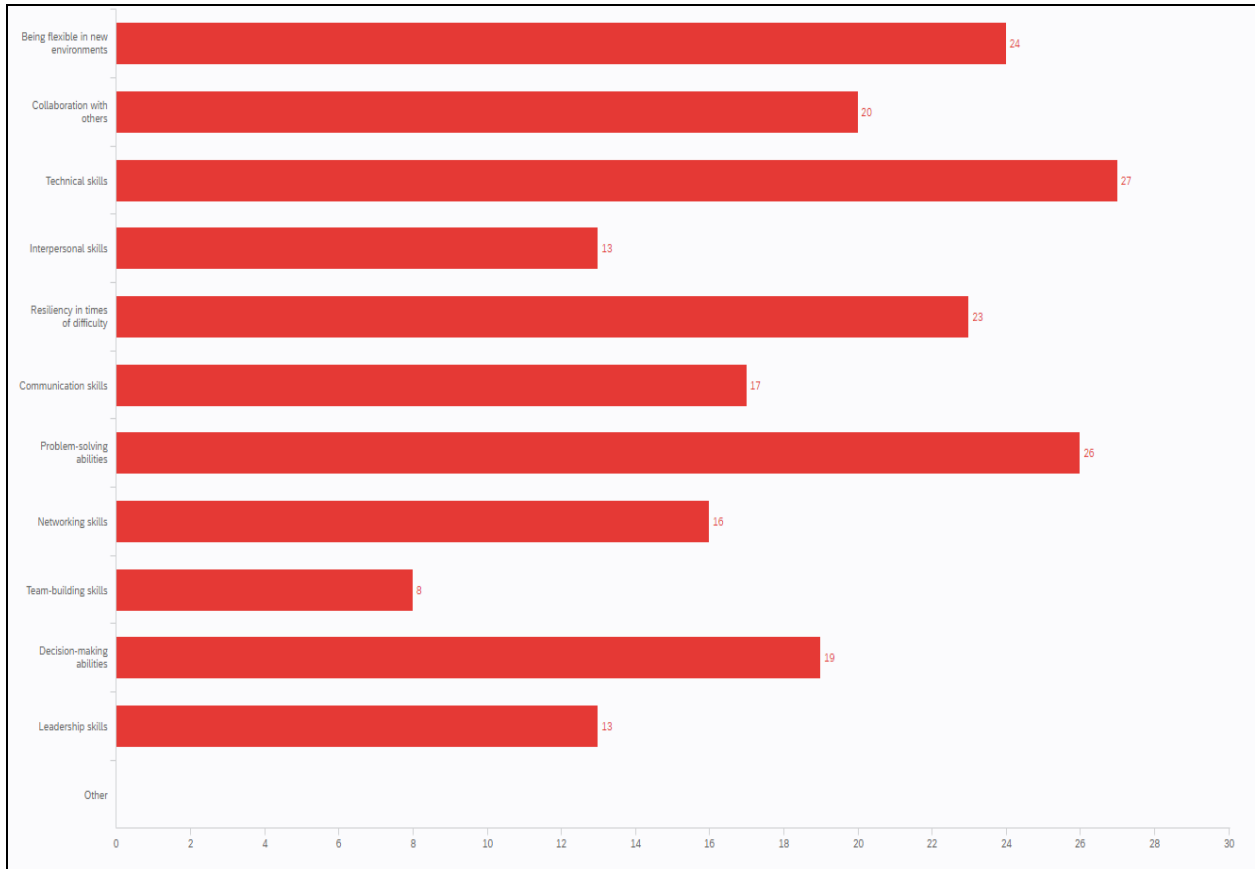


Figure C7 - Skills Acquired at Stony Brook University

Q2 - How is your department of engineering preparing you as a student in finding an internship or full-time job during the pandemic of COVID-19? Select all that apply.

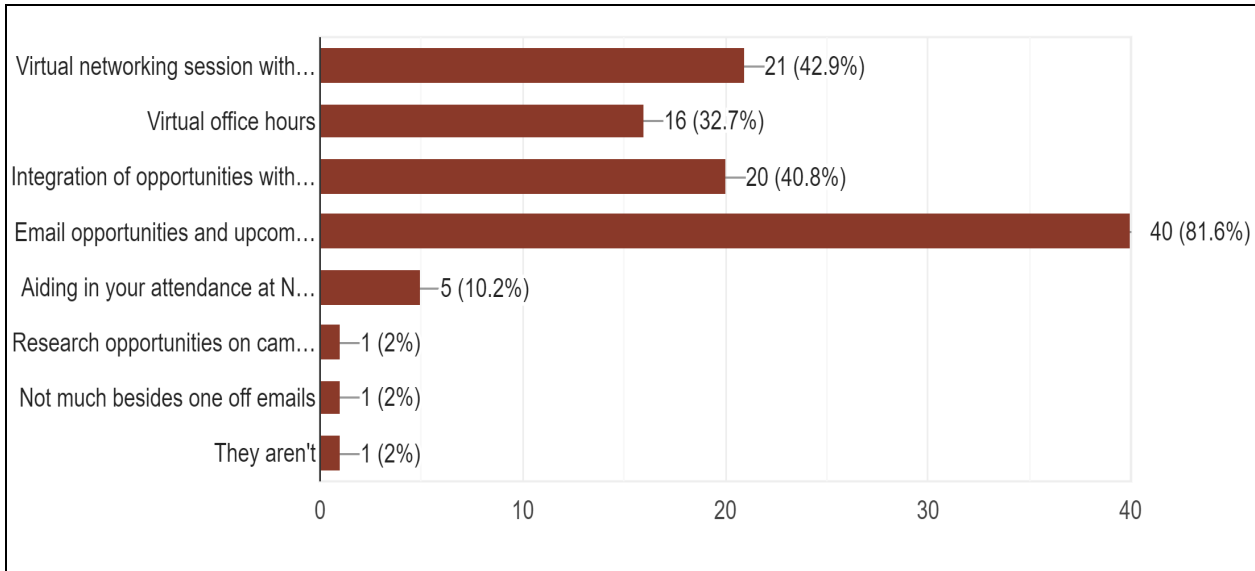
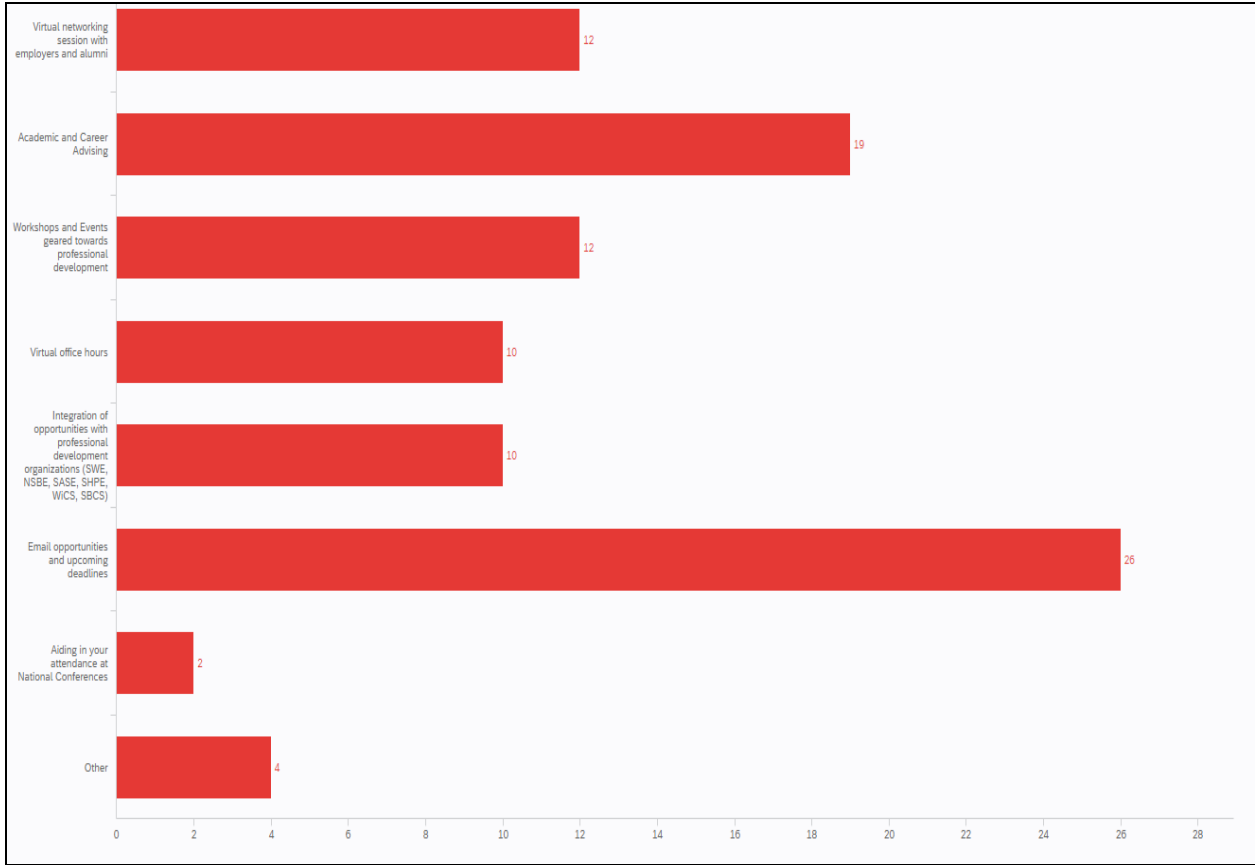


Figure C8 - CEAS internship and full-time job preparation

**Q3 - If you could not find a job after your graduation, what would be your plans?
Select all that apply.**

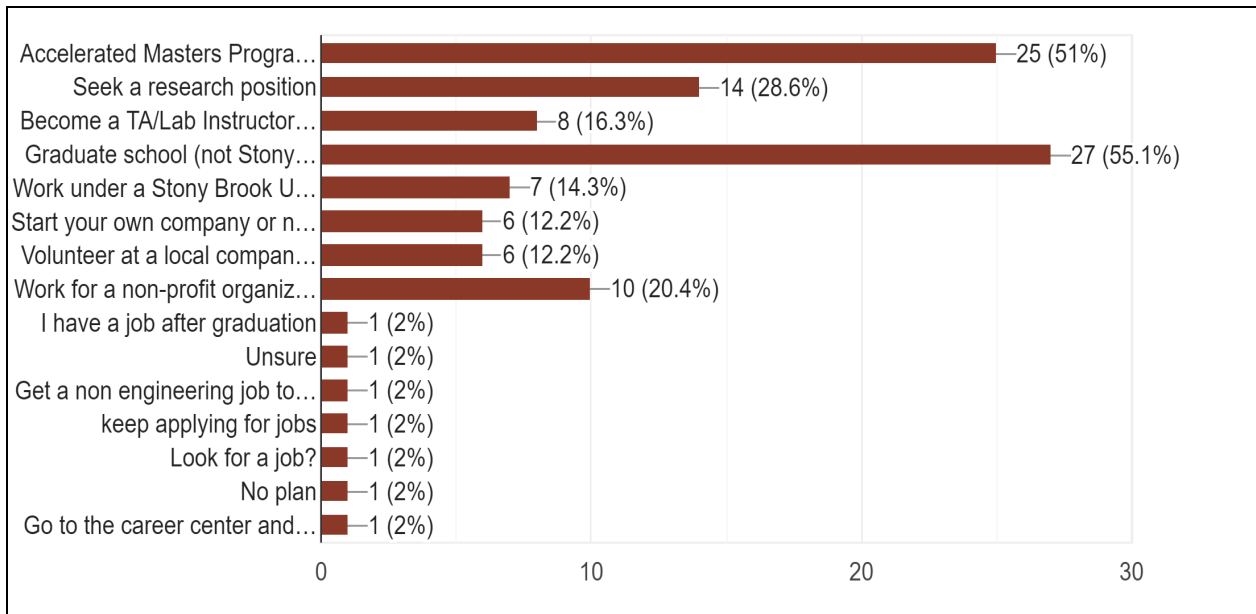
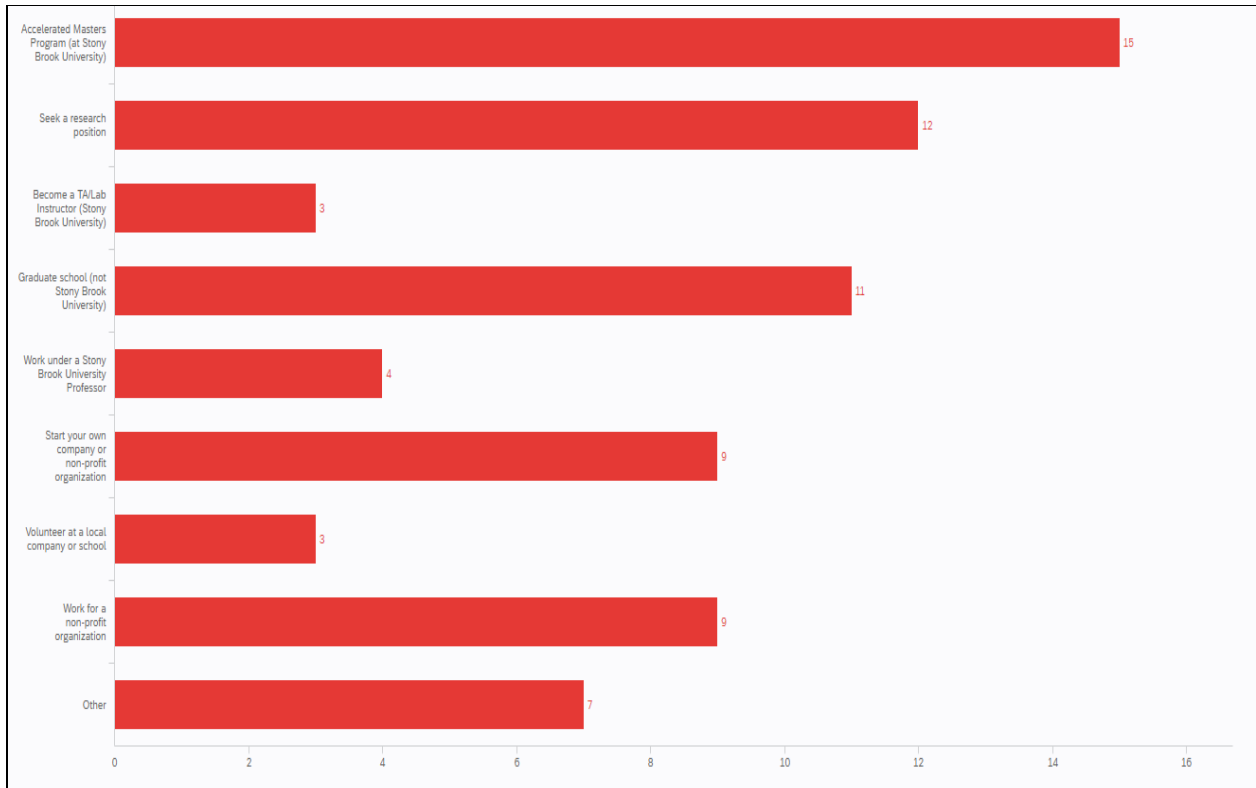


Figure C9 - Post-graduation plans

Q4 - What is the best part of being involved in CSTEP/WISE? Select all that apply.

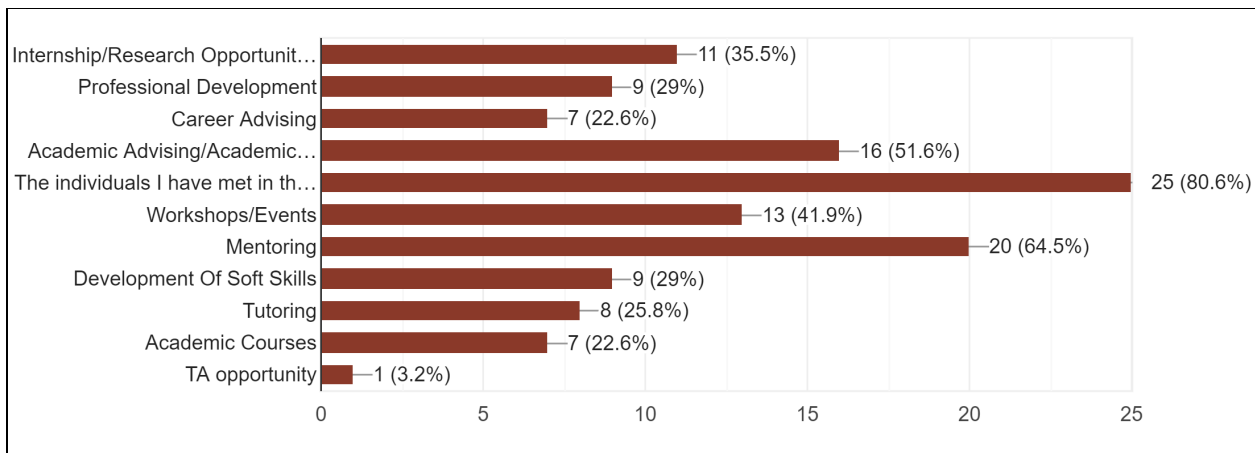
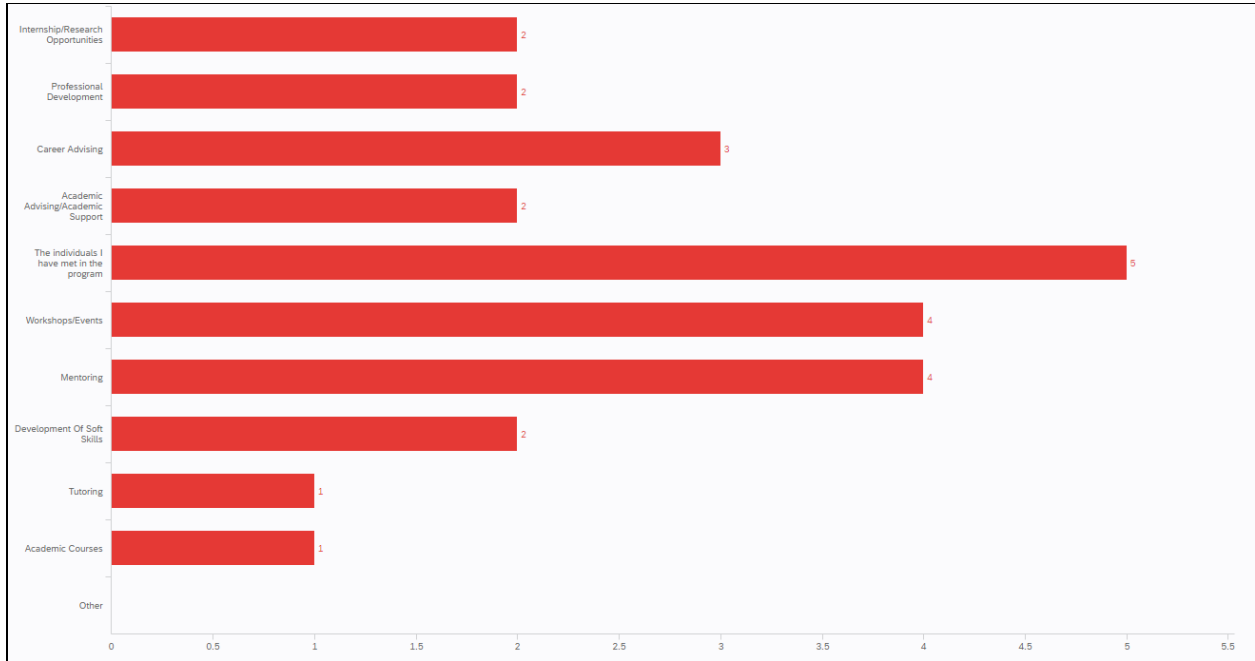


Figure C10 - Best Part of the CSTEP/WISE Programs

PROS	CONS
VIP Program allows for interdisciplinary experience for engineering majors	Not enough programs that support interdisciplinary studies or interaction across majors
Senior Design allows you to work with other departments	Not enough variety of topics covered in the WISE curriculum
WISE/CSTEP help students develop a sense of community across campus	Lack of communication between faculty, staff, students about various opportunities/programs
WISE helped students network with alumni and recent graduates through events and panels	Not enough advising from specific departments

CSTEP helped students find TA or research positions	Unaware of different courses being offered that align with majors but are not in their major sequence/department
Mentorship! -WISE Mentoring Program, Major specific mentoring, CEAS Peer Mentoring Program	Not enough awareness that different paths could be taken to graduate on time, whether this is major or WISE specific
CEAS Orgs! - SWE, WiCS, CEAS Peer Mentoring, SASE, Motorsports, ASBO, ASCE, USG go above and beyond to help students grow professionally and socially	Limited major specializations are offered and knowledge to major-specific professional certifications is limited

Table C11 - Table of Pros and Cons formulated from the feedback from students through the Focus Group Survey

Undergraduate Students

Background

The goal of including undergraduate students in our research was to understand the unique challenges that the majority of Stony Brook students face within the context of career development and the COVID-19 pandemic. Our initial aim is to assess the effectiveness of the career center resources among students, both in terms of awareness and usage.

Although undergraduates are still early in their careers and many don't have concrete ideas of their post-graduate work, it is vital for Stony Brook to provide resources to develop the skills necessary for students to excel beyond their undergraduate years. With over 200 majors and minors and almost 18,000 students, there is a significant challenge in serving each individual's needs, especially in times of incredible economic change. We look at student surveys of student interests, interdisciplinary interest, and communication improvements between the Career Center and the students.

Mid-Year Results

We conducted a Qualtrics survey in February 2021 in which we assessed 541 undergraduate students' responses to their awareness, and use of the resources offered, as well as its benefits and needs. Our aim in focusing on undergraduate students was to assess the current career services and resources that enable students to explore careers, access internships and advice, network, develop essential skills, and pursue their career goals.

Q1 - Which of the following goals have been aided by support from the career center?

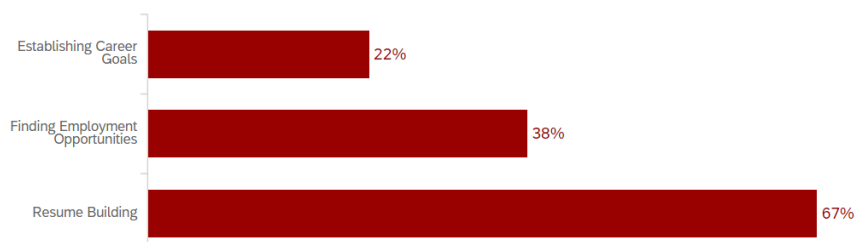


Figure D1: Goal Attained with the Support of the Career Center

Q2 - Which of the following were likely reasons for not using resources available through the career center?

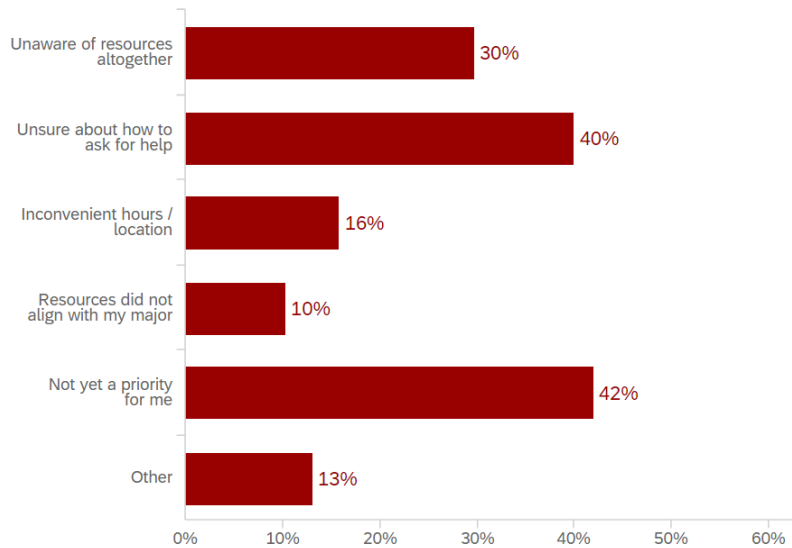


Figure D2: Reasons for Not Utilizing Career Center Resources

Q3- Have you gained skills at that job that you feel are beneficial to your intended career?

Q4- Do you feel confident in your ability to accurately discuss those skills in a professional environment like a job interview?

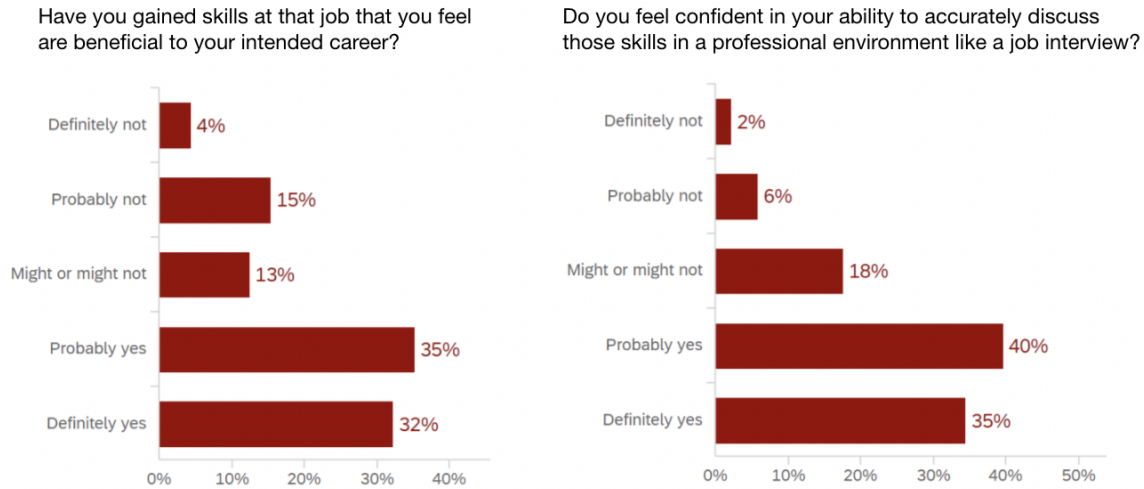


Figure D3-D4: Confidence Level Based on Skills Acquired

Q5 - Please select all the resources that you have used:

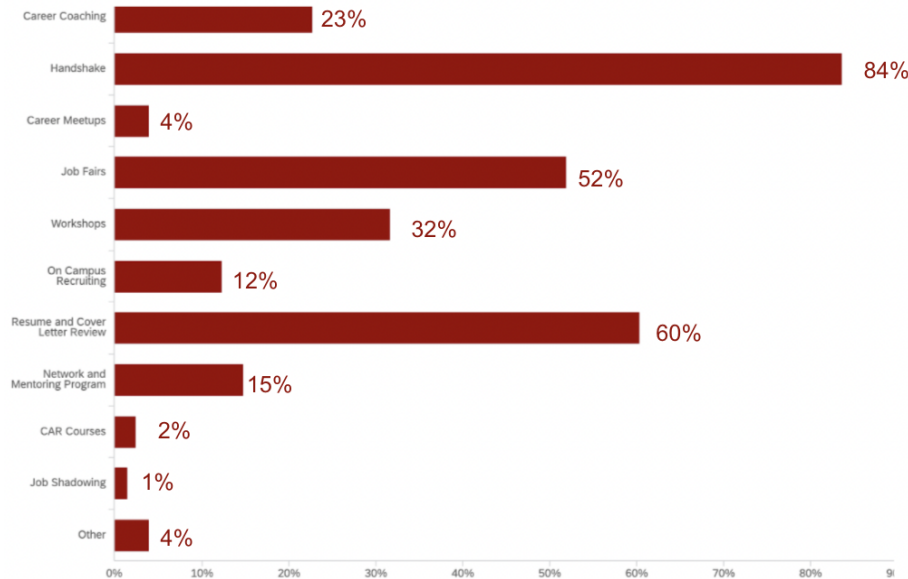


Figure D5: Resources Utilized by the Students Surveyed

Final Results

Our aim in the second round of research was focusing on undergraduate students’ interest and awareness of interactive resources offered by the Career Center, interdisciplinary subjects, and suggestions for improvement in communication. We received a lower amount of

survey responses. But among the 68 undergraduate students, we were able to learn and hone in one their interest in more interactive career center resources such as the CAR courses, their interest in interdisciplinary studies, and enhance the quality of communication.

Q1 - What areas/subjects are you currently enrolled in or aspiring to enroll in?

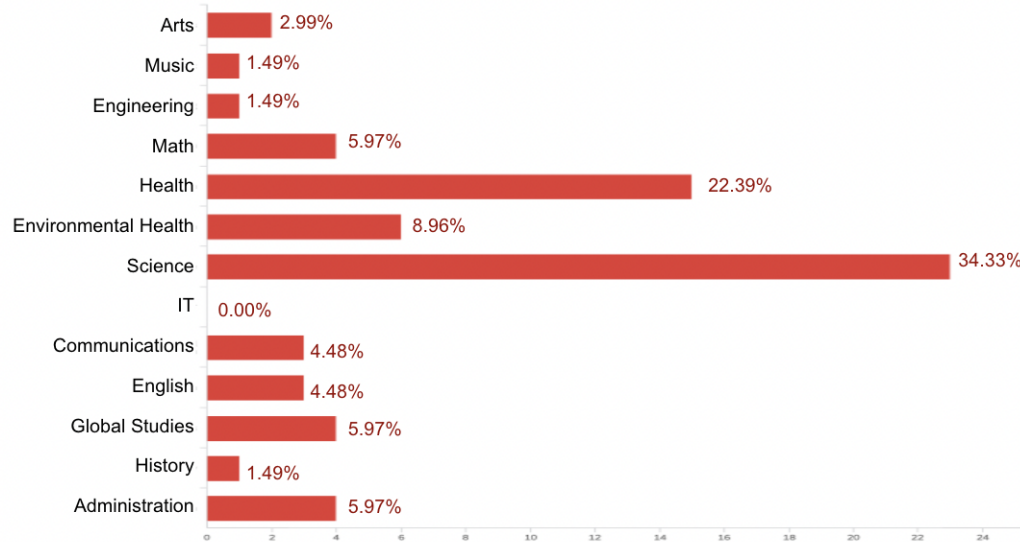


Figure D8: Overview of Majors Surveyed

Q2 - What areas/subjects are you interested in apart from your (intended) major or in conjunction with your major?

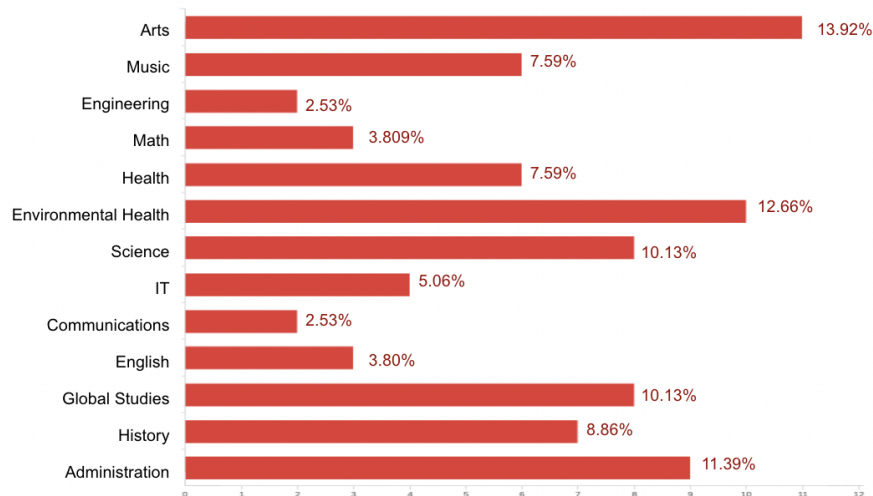


Figure D9: Subjects of Interest for Multidisciplinary Courses

Q3- If your major does not have one already, would you be interested in pursuing a multidisciplinary study subject or class?

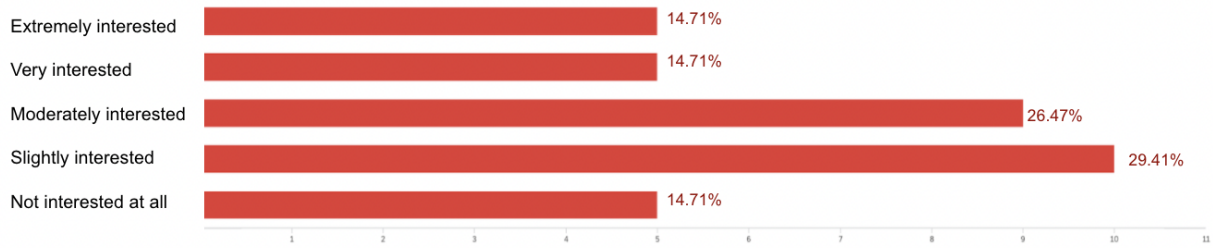


Figure D10: Interest in Multidisciplinary Subjects or Classes

Q4- What would entice you more as a student to participate in a multidisciplinary class?
Q5- Please explain why you wouldn't be interested in a multidisciplinary subject or class?

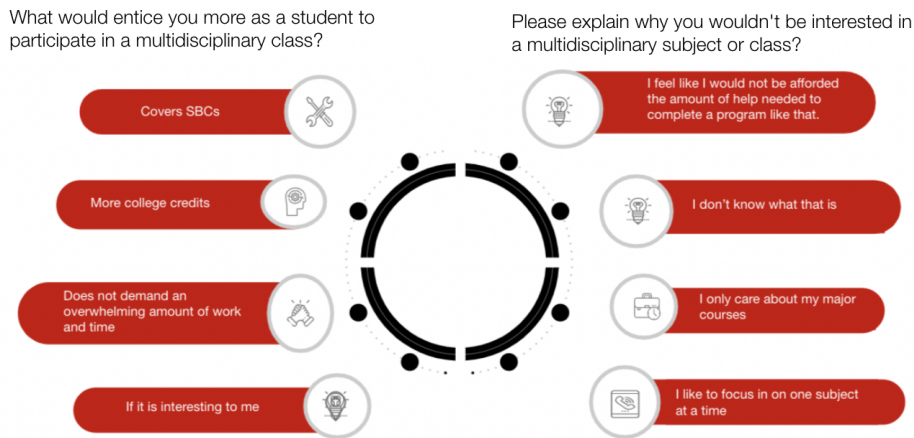


Figure D11: Concerns with Multidisciplinary Subjects or Classes (Written Responses)

Q6- How aware are you of the following opportunities offered through the Career Center?

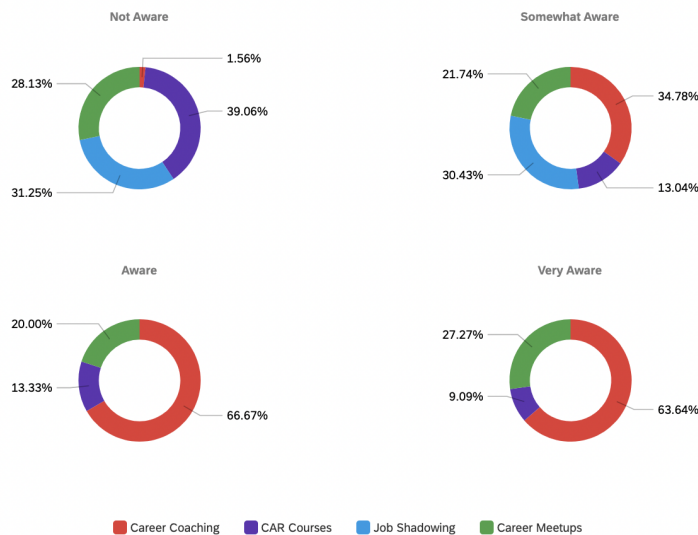


Figure D12: Awareness of Specific Interactive Resources(Written Responses)

Q7- How interested are you in the following opportunities offered through the Career Center?

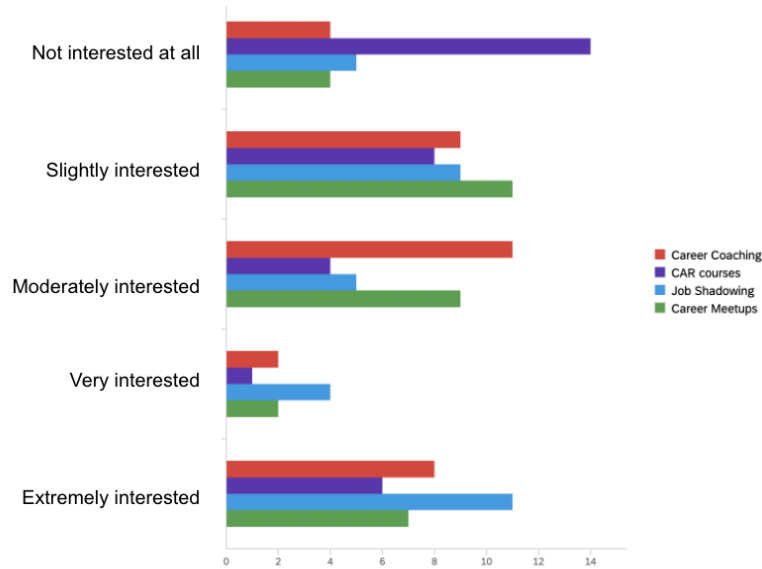


Figure D13: Interest in Specific Interactive Resources

Q8- In what ways could communications through the Career Center, Handshake, and other offices be improved?

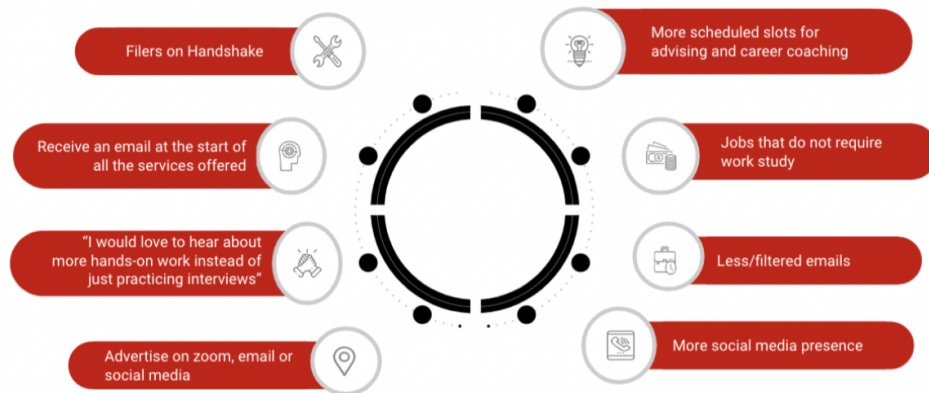


Figure D14: Recommendations for Improving Communications (Written Responses)

Alumni

Background

The goal of studying alumni was to understand the connection between what skills were acquired by students during their time at the University and these skills are considered useful in their careers post-graduation. In addition, we explore what changes could be made to better equip upcoming graduates in the post-COVID workforce.

The COVID-19 pandemic is impacting employment across nearly every industry and field, to the extent that we are not yet sure whether some industries will ever fully recover. Students graduating into the current pandemic are dealing with a complete upheaval of their academic, social, and professional lives; there is no way to tell how this will reshape the labor market in the long-term, but many graduates have found themselves unable to transition into working, adult life as they face great uncertainty and limited career prospects (Alter). The pandemic is not even the sole disruptive event college students have faced in the past decade — the Great Recession in 2008 was one such notable instance. Studies indicate that individuals who graduate into recessions are impacted “substantially but unequally,” as some graduates face years of declining wages and reduced professional mobility while others who possess greater social advantages are able to adapt more quickly (Oreopoulos et al). The long term effects of graduating into a pandemic, however, have yet to be observed.

With the context of these significant changes, we set out to assess not only how Stony Brook graduates were navigating some of these ongoing challenges — such as the shift towards remote or hybrid workspaces and potentially limited employment opportunities — but how they had navigated similar challenges in their professional development ever since they had graduated from the university. The hope was that in gauging the skills alumni felt they had gained during their time at Stony Brook, and whether these skills are still useful today, we can better prepare undergraduate students for professional success from the time they enter as freshman to their transition into employment.

COVID-19 and the Workplace

COVID-19 has impacted employment across multiple industries, as many jobs were adapted to more online and remote settings, the skills required for the execution of these jobs also began to change. We sought to see the changes in the skills necessary to find a job in different career fields, in particular, with a large number of careers transforming to allow for more remote access, we sought to explore the changes that this transformation would have on the skills needed to be a competitive candidate for these jobs and positions. In our research, we investigated the skills that alumni felt were essential for the current workforce, with a focus on the post-COVID working environment, in addition to their preparedness for this change based on the skills that they learned during their undergraduate careers. Our objective was to gauge

how well the university has prepared its graduates for the post-COVID workforce and what skills may need some more attention and changes as different changes are being made in the current workforce as a result of the pandemic.

Alumni that were questioned on which skills were needed for employment in the post-COVID environment, the top essential skills needed in the post-COVID workforce that resulted from the responses are professionalism/work ethic, teamwork/collaboration, and digital technology. Alumni also responded with the skills that they believe that they received from the university that were applicable to the current workforce. From their responses, we observe the biggest deviation between the skills received from the university and the skills needed for the post-COVID workforce exists in skills relevant to digital technology, which we explored further in our final results.

Digital Technology

As the pandemic continued throughout the United States, many jobs adapted to allow for more remote access and working conditions to prevent the spread of the pandemic. As this evolved, we began to see digital technology begin to play an even bigger role in careers than what was previously observed in the pre-pandemic workforce. Digital technology can be seen in many aspects of the current workforce, ranging from Zoom conferencing, to emails, and office software. After observing the importance of digital technology in the current workforce and the deviation that existed between the amount of digital technology skills provided by the school and what was needed for the current workforce, we sought to explore in further detail the kinds of digital technology skills that are important to the current workforce and the changes that we can make to our current education in digital technology to adapt to these changes.

Alumni Career Services Utilization & Awareness

Another avenue we decided to investigate was whether alumni were utilizing the current career development resources available to them and whether they were aware of services offered to them. Our objective was to gauge how career services could be tailored to support alumni during this time. While alumni that were surveyed generally felt well-prepared for their careers by the university, we believe that more can be done to prepare students graduating into increasingly uncertain times.

Mid-Year Results

We conducted our mid-year survey of the alumni population in February 2021. Our goal was to understand what skills alumni received from Stony Brook, and what skills they are currently utilizing in their careers. Additionally, we wanted to know whether they felt prepared by the University and whether their career fields were affected by the COVID-19 pandemic. The survey received 14 responses, and the relevant questions/figures can be found below.

Q1 - In your overall experience, which of the following skills did you feel like you received from Stony Brook University? Check all that apply.

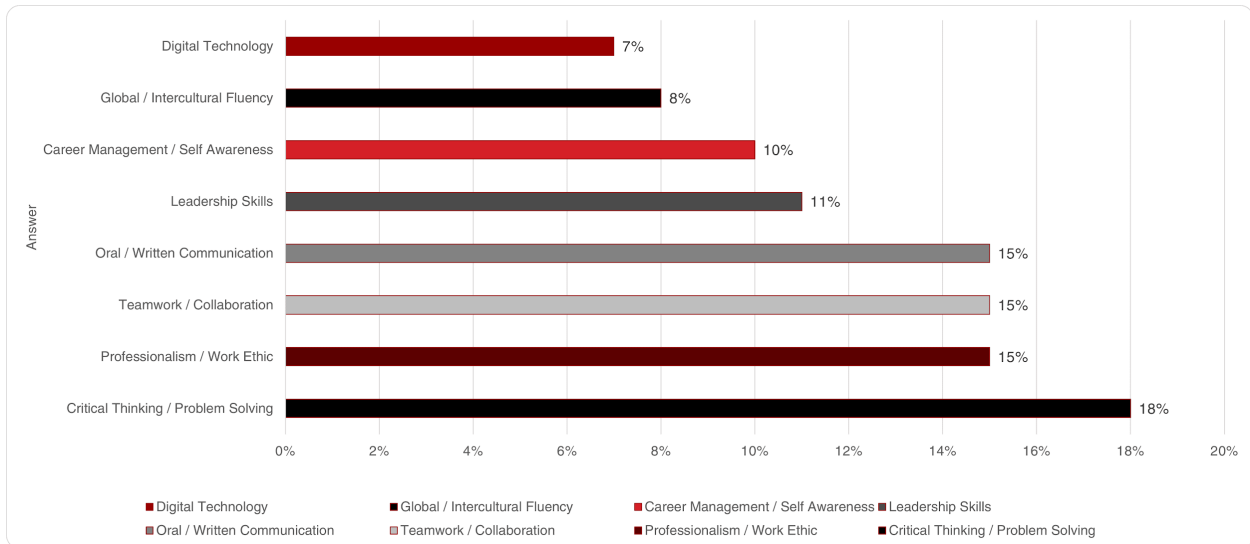


Figure E1: Skills received from SBU

Q2 - Which of the following skills or traits do you feel are essential for the current workforce as a result of the COVID-19 pandemic? Check all that apply.

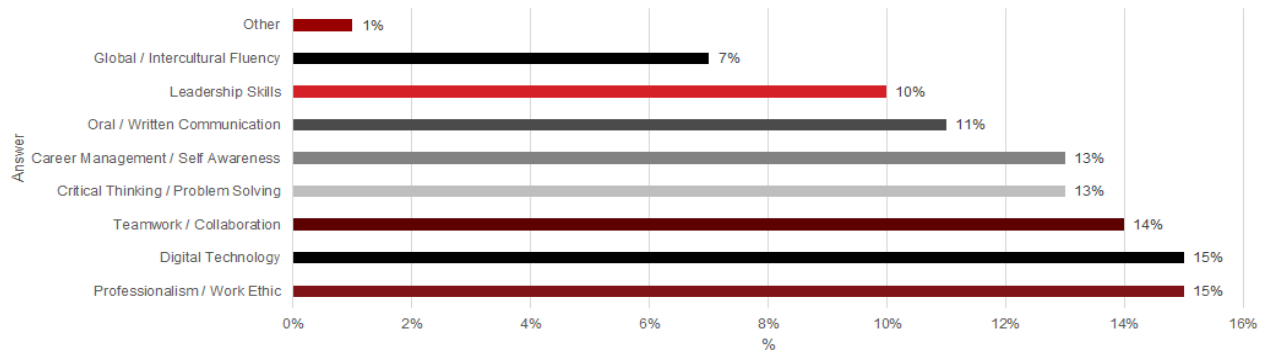


Figure E2 - Traits Considered Essential by Alumni in COVID-19 Workforce

Q5 - Rate your agreement or disagreement with the following statements:

- A. "The University adequately prepared me for my career field"
- B. "COVID-19 and its workplace restrictions have affected my career field and/or job search"

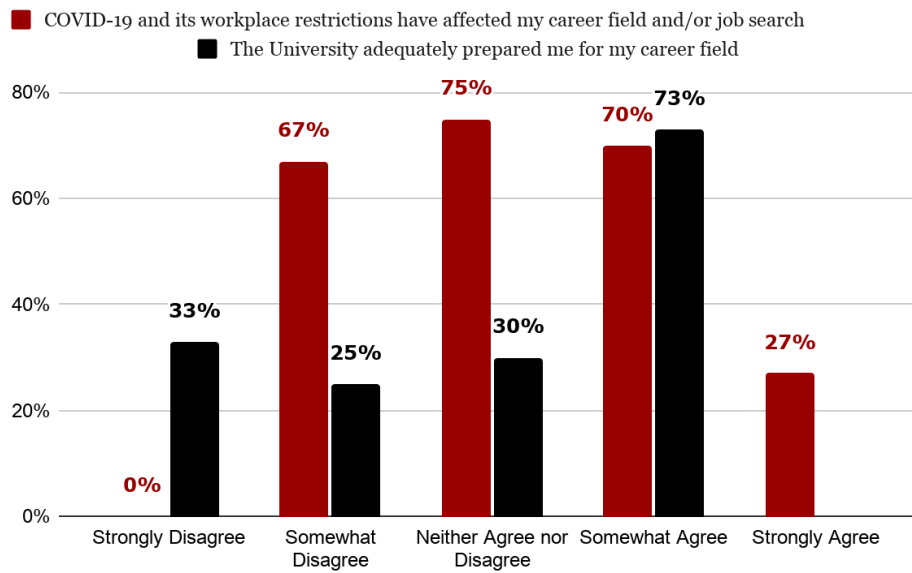


Figure E3 - Preparation for career field and effect of COVID-19

End-Year Results

Our aim in completing a second round of research was to study and explore the career services being utilized by alumni and the digital technology skills needed in the current workforce. Our goal was to use this information to study what skills are needed for the current workforce with a focus on digital technology skills, in addition to studying the use and effectiveness of the career services offered to our alumni, as well as their experience in obtaining the needed skills and resources as undergraduates. In addition, we also studied the impact that the recent COVID pandemic has had on the workforce and these required skills. The survey received 11 responses, the questions relevant to our results and the corresponding figures can be found below.

Q3 - Rate your agreement with the following statement: *the digital skills I learned at the university have proven useful in my career during the COVID era.*

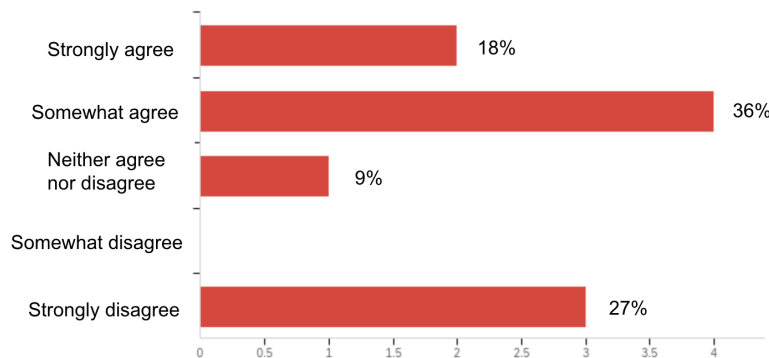


Figure E4 - Applicableness of digital skills obtained at the university in the post-COVID workforce

Q4 - Did you receive additional higher education such as certifications, training, or degrees to become a more competitive career candidate?

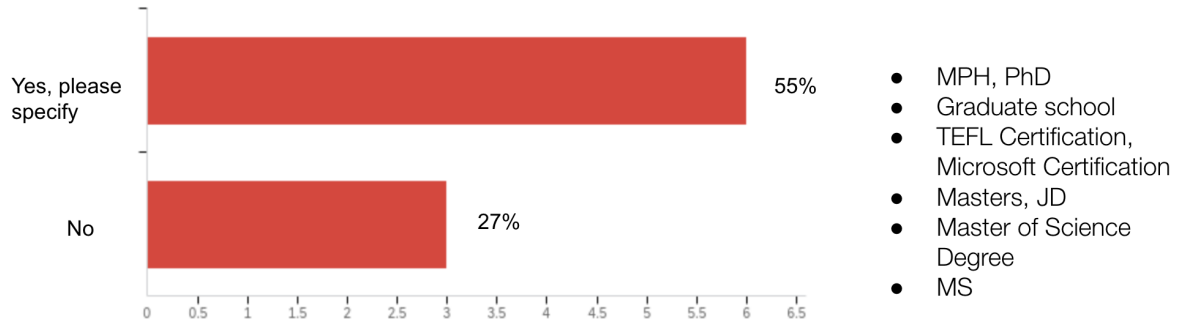


Figure E5 - Additional education obtained by alumni to aid them in being a more competitive candidate in the workforce

Q5 - Select all of the following that may have negatively impacted your academic experience as an undergraduate.

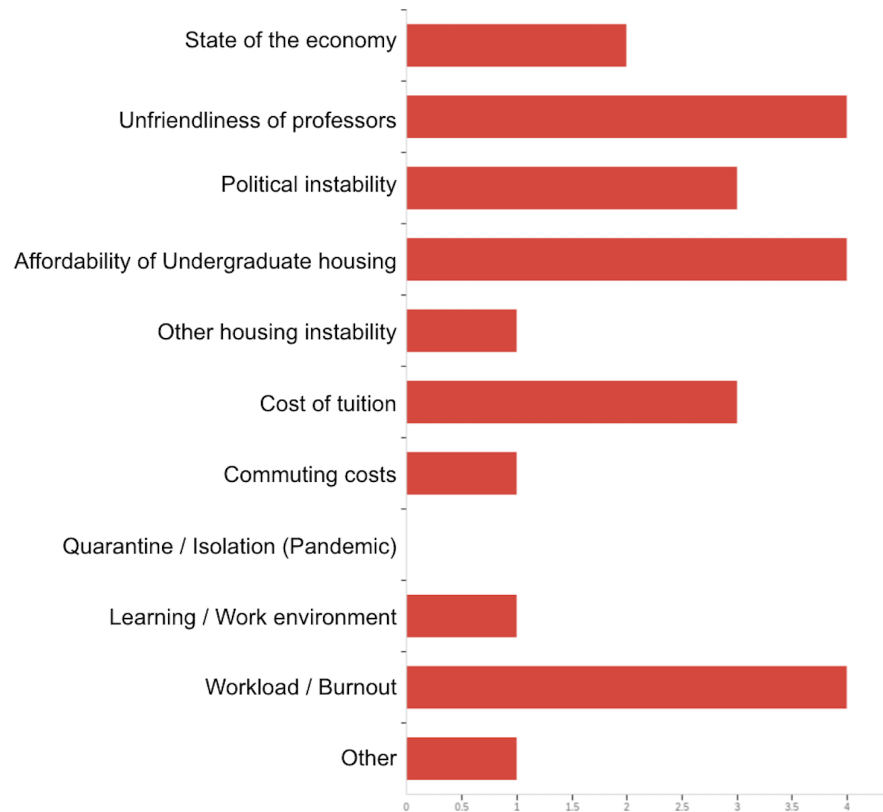


Figure E6 - Factors that negatively impacted alumni in their undergraduate years

Q6 - In your opinion, how well does your current career align with your undergraduate major?

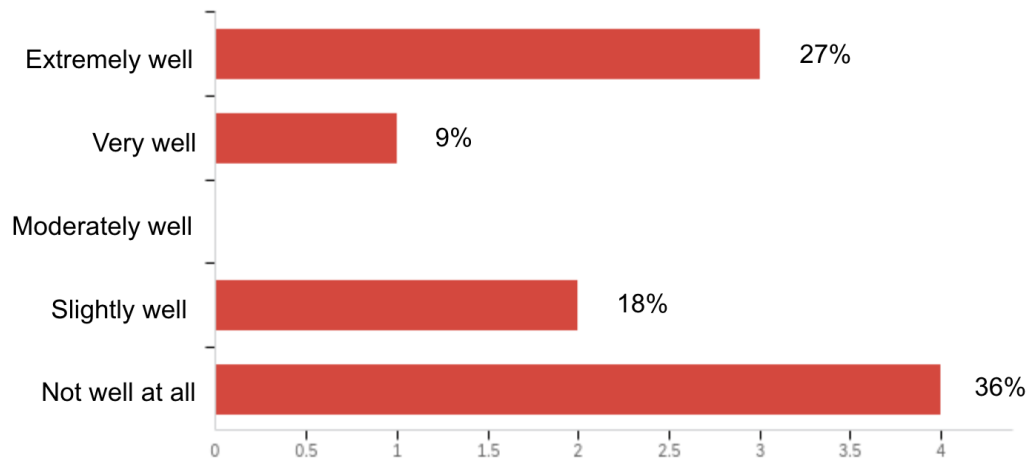


Figure E7 - Alignment between alumni undergraduate major and current career

Q7 - What software are you currently using in your career?

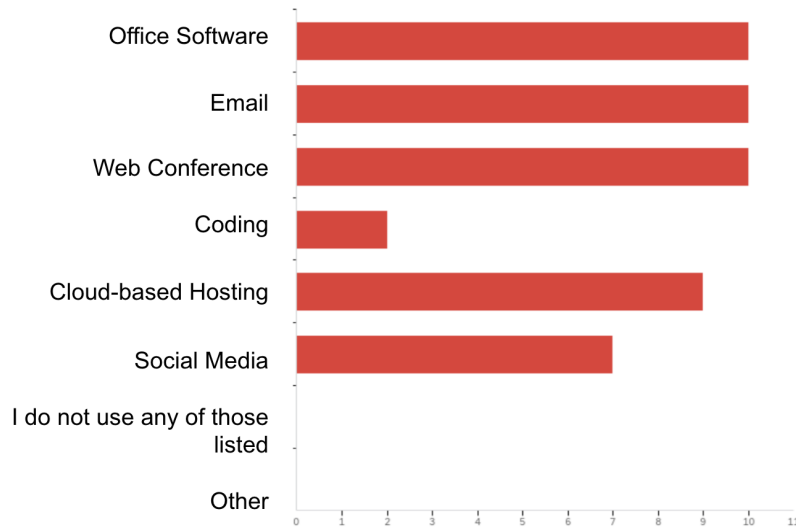


Figure E8 - Software that are being used in the current career field by alumni

Q9 - What career services, if any, did you utilize to strengthen your candidacy or further secure your career?

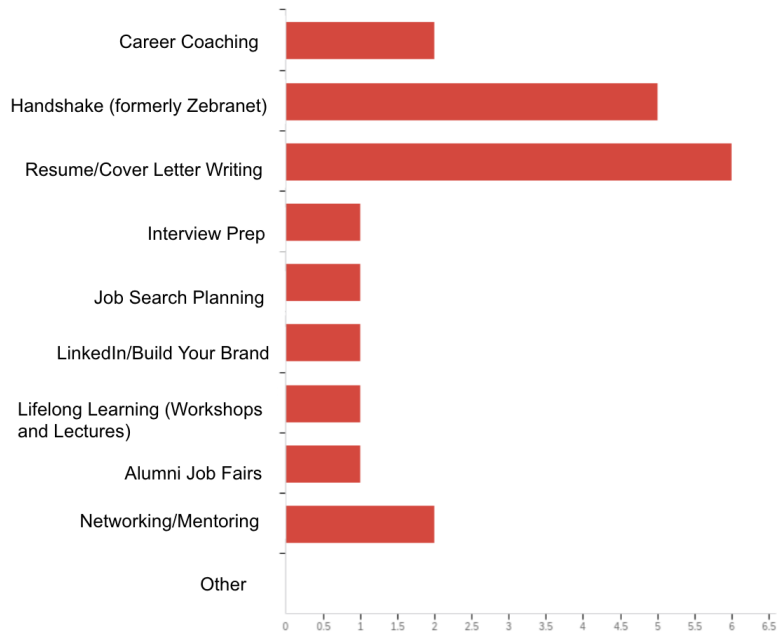


Figure E9 -Career Services that alumni have used to aid in securing their career

Q10 - If you have utilized any of the career development services/programs currently available to alumni, did you find them helpful?

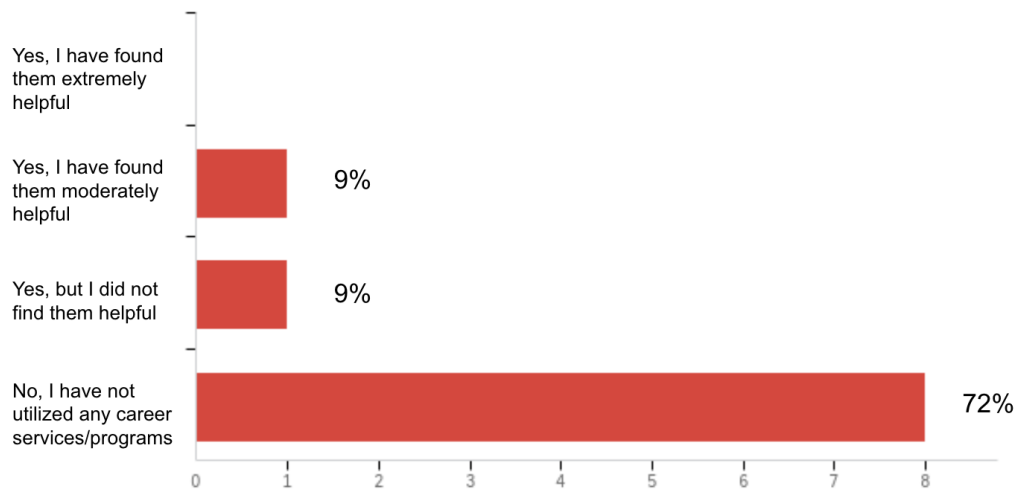


Figure E10 -Use of alumni career development services by alumni

Q11 - Select any applicable barriers to using the services

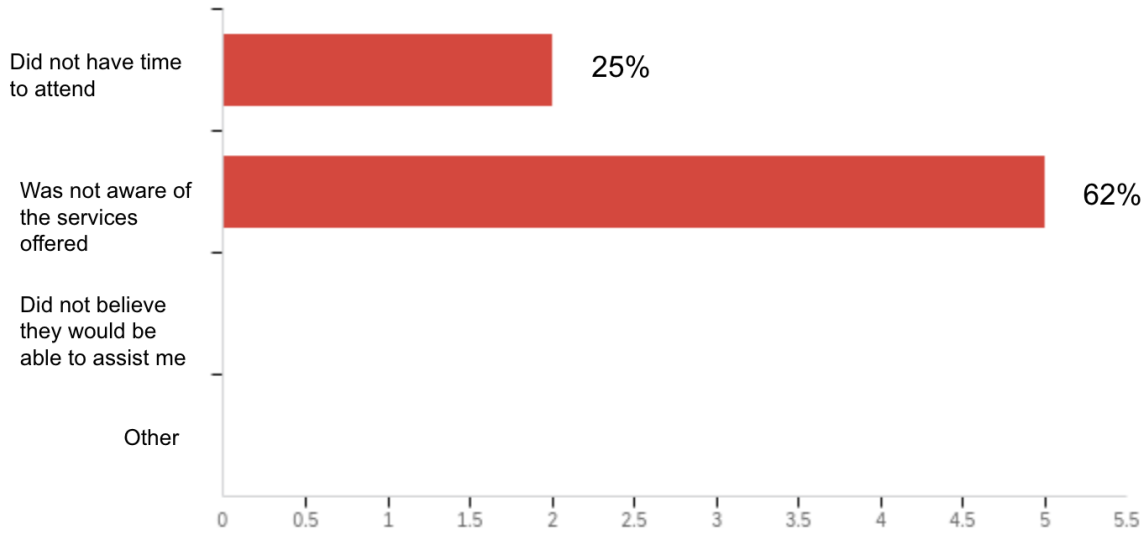


Figure E11 -Barriers to using alumni career development services

Focus Group Responses

Questions	Responses
<i>What other career competencies should be added to the current selection?</i>	<ul style="list-style-type: none"> • <i>Engaging differences / DEI</i> • <i>Interpretation</i> • <i>Ethical thinking</i>
<i>Was the career field you were interested in undergoing significant changes in the requirements prior to COVID?</i>	<ul style="list-style-type: none"> • <i>Positions being cut and changing in value</i> • <i>Wished that they had known about these developments in the field before going into the field (in the field of higher education, looking to transfer to the technology industry)</i>
<i>What other skills should new graduates have entering the workforce during and after COVID?</i>	<ul style="list-style-type: none"> • <i>Taking initiative</i> • <i>Building empathy and connections</i>
<i>Additional important notes from participant responses</i>	<ul style="list-style-type: none"> • <i>They were not aware of the career services that were geared towards alumni</i> • <i>The university should teach students how to be their own advocate</i> • <i>Advancement opportunities for</i>

Graduate Students

Background

The purpose of including graduate students in our research was to understand their unique challenges within the context of career development and the COVID-19 pandemic. Our initial assumption would be that the experience of both career development and the pandemic would vary to a significant degree from the perspective of a student pursuing an advanced or highly specialized degree as opposed to that of students in progress of a general undergraduate degree. In addition to these differences, the current pandemic has also demonstrated that a multidisciplinary approach is undoubtedly necessary to address globalized problems. Being that graduate students ultimately work to become leading experts in their fields, they too will need to develop the competencies necessary to collaborate with those of other disciplines to create effective and innovative solutions to real world problems.

Some of the most prevalent problems creating barriers graduate student career development include fellowship and externship program disruptions due to COVID-19, inability to commit time to career development because of lab and research hour commitments, freezes in H1B visa programs, sluggish job markets in academia, confusion on applying academic experience to industry positions, and various other pre existing and new found issues .With over 100 graduate degree programs and 8,000 students, concerns about job perspectives in a post-covid world also vary to a significant extent depending on the program. Early research is already indicating that major shifts in the economy are creating doubts for certain populations of graduate students while increasing confidence for others.

Current Programs & Experiences

Some of the current career development programs and experiences offered to graduate students are the PhD Career Ladder Program (PCLP), Individual Development Plan Program (IDP), and various multidisciplinary career development opportunities. The PCLP program is a 7 step peer-led program geared towards helping graduate students become well-rounded in their career paths (PhD Career Ladder Program). Workshops are provided biweekly to equip students with skills such as self assessment, resume building, interviewing, and many more. The IDP is an NIH-grant required program that allows researchers to explore and define training goals, professional development needs, and career objectives with your faculty sponsor. It guides you to reflect on where you are and where you would like to be, and defines specific actions for goal achievement. Interdisciplinary work can be defined as different specialties coming together to solve one focused problem. Programs like IACs mentorship, SOM and SON interdisciplinary SIM programs where medical students and nursing students collaborate together on emergency codes, and PACE-internship wellness programs are available for graduate students desiring to

collaborate with students of various disciplines on new and refreshing research projects and simulated workplace experiences.

Mid-Year Results

We conducted our mid-year survey of the graduate population in February 2021. Our goal was to understand how the pandemic has affected confidence levels in students, understand how familiar students were with career development programs offered by the university, and gauge their understanding of interdisciplinary experience and its importance in the context of career development. The survey received 156 responses, and the questions/figures can be found below.

Q1: On a scale of 1-5: To what degree has the COVID-19 pandemic affected your confidence in gaining employment in your intended career field?

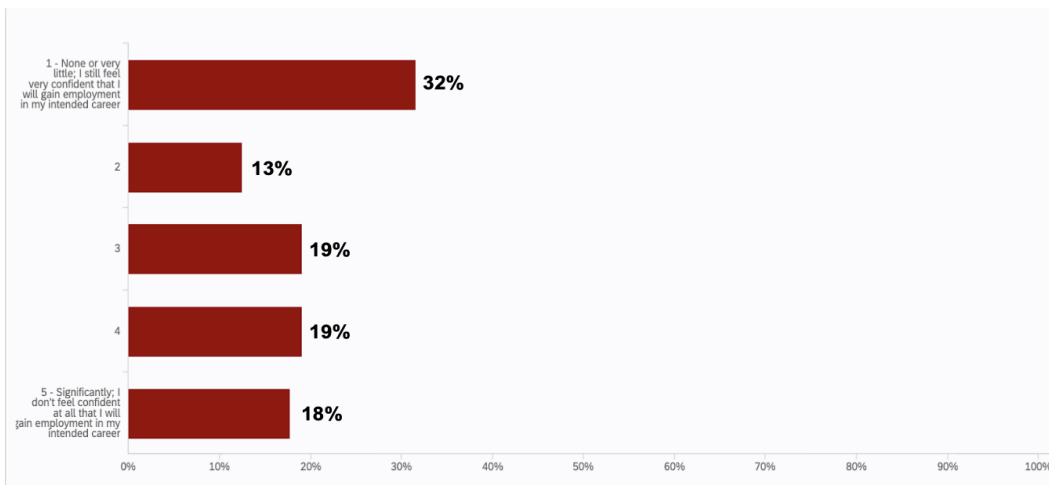


Figure F1: Impact of COVID-19 on confidence in gaining employment

Q2: Please share why you gave that rating in the previous question:

Reasons for Confidence	Reasons for Doubt
<ul style="list-style-type: none"> telehealth is a worthy substitute and a valuable option 	<ul style="list-style-type: none"> limited interactions with faculty and students limiting social skills
<ul style="list-style-type: none"> Within the pandemic, the need for my department has grown (medicine, nursing, social services, physical therapy) 	<ul style="list-style-type: none"> Hiring Freezes, Higher competition & Fewer available jobs
<ul style="list-style-type: none"> Currently employed 	<ul style="list-style-type: none"> My field has shrunk significantly
<ul style="list-style-type: none"> Feel confident about finding employment 	<ul style="list-style-type: none"> Do not feel confident about my skills
<ul style="list-style-type: none"> My job can be done remotely 	<ul style="list-style-type: none"> Teaching isn't in high-demand as before with transitions to virtual learning
<ul style="list-style-type: none"> Interviewing is virtual now which lessens the pressure 	<ul style="list-style-type: none"> Higher competition and fewer jobs
<ul style="list-style-type: none"> Remote learning skills translate well to my career path 	<ul style="list-style-type: none"> Struggling financially/Family Issues making employment in other areas difficult

Table F2: Short Response of Previous Question

Note: Responses listed were a summary of the 130 short answer responses to the questionnaire

Q3: Does your program require an Individual Development Plan (IDP) for your research?



Figure F3: IDP Requirement Count

Q4: You indicated that your program probably or definitely requires an Individual Development Plan (IDP) for your research. Please rate how useful IDPs are to your career development.

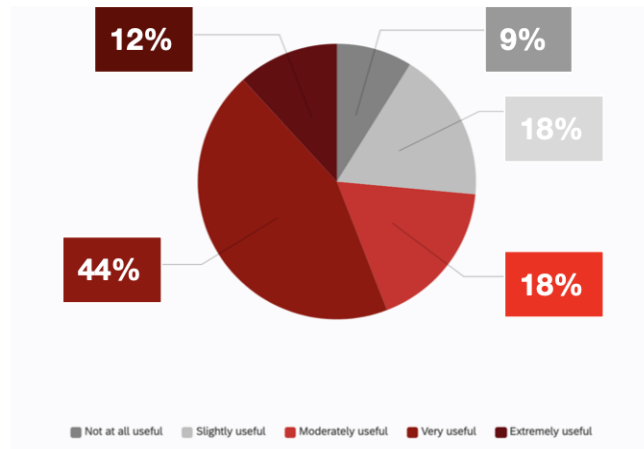


Figure F4: IDP Usefulness

Q5: The PHD-Career Ladder Program (PCLP) is a peer-led career mentoring program for graduate students and postdocs pursuing any career pathway. Have you been involved in any PCLP activities?

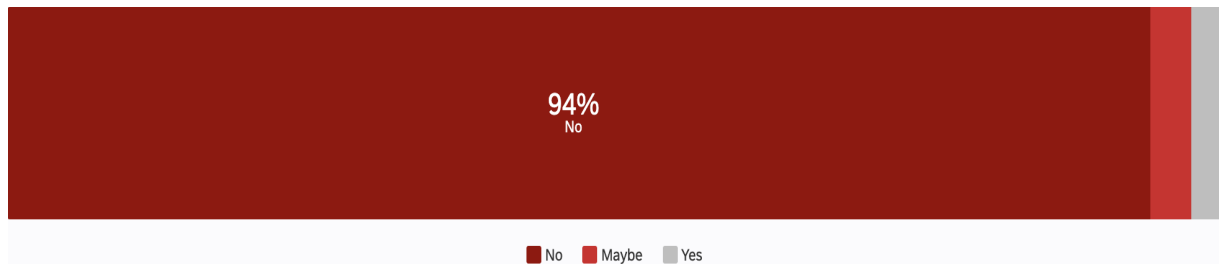


Figure F5: PCLP Involvement

Q6: You indicated that you have not been involved in PCLP activities. Are you interested in hearing more about the PCLP?

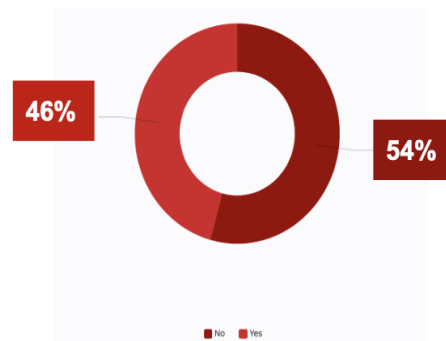


Figure F6: PCLP Interest

Q7: We define interdisciplinary work as opportunities in which people from different parts of science collaborate to work on a focused problem. Have you had any opportunities to pursue interdisciplinary work?

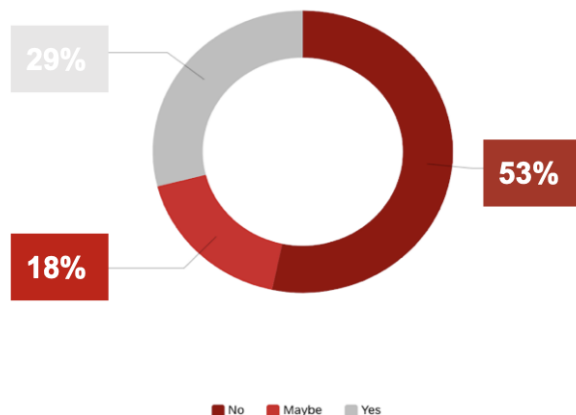


Figure F7: Interdisciplinary Opportunities at Stony Brook

Q8: You indicated that you participated in interdisciplinary work. Please rate how useful those opportunities were to your career development.

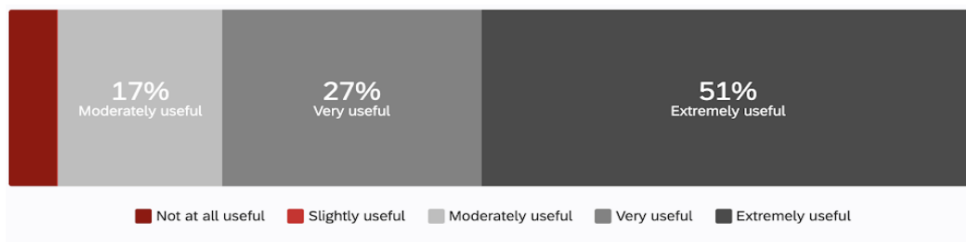


Figure F8: Interdisciplinary Work Usefulness

End-Year Results

We conducted our final survey of the graduate population in April 2021. Our goal was to further analyze the questions of the mid-year survey. We also conducted a Focus Group with students from Stony Brook’s Masters of Science in Nursing Education/Leadership. Part of their curriculum is a required career development course specific to their program and their participation in a multidisciplinary simulation experience. Specifically, this simulation experience required the nursing education and nursing leadership students to play the role of a Clinical Nursing manager and for the undergraduate BSN students to be prospective employees. The graduate students conducted simulated interviews with the BSN students and allowed them to actively utilize core career competencies to conduct themselves in this simulated leadership role and gave them opportunities to interact with and mentor the undergraduate students.

The intention for selecting this program was to study student satisfaction and perceived acquisition of career competencies from a SBU program that includes career development within the curriculum that also includes their participation in a multidisciplinary simulation. The overall outcome of the responses from the focus group was overwhelmingly positive and demonstrates an area of further research into implementing a similar structure to other programs. The survey received 50 responses, and the questions/figures can be found below.

Q1: Would you be interested in a career-development course required by your program that is tailored to your future employment interests?

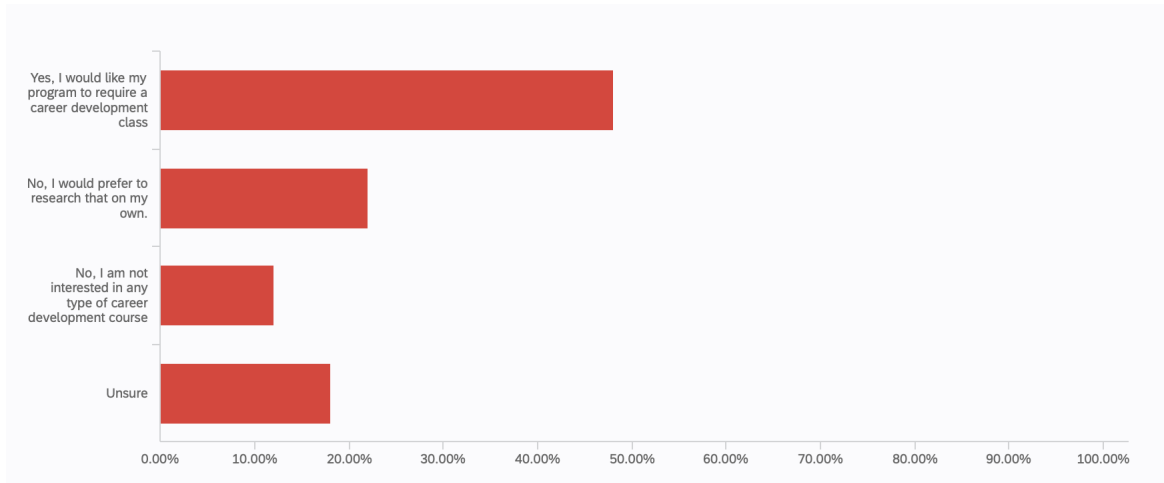


Figure F9: Required Career Development Course

Q2: Do you believe having the experience of working on a multidisciplinary team working on one focused problem/project would make you competitive to future employers?

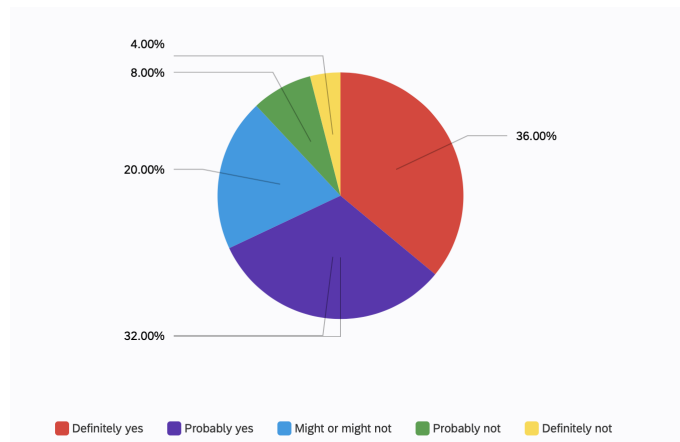


Figure F10: Multidisciplinary Importance to Graduate Students

Q3: What other experiences have you had in your graduate education have you found to be useful to your career/professional development? (Ex. Research opportunities, career services programs, etc.)

<u>Optional Career Center Services</u>	<u>Outside Services</u>
Paid Internships	DPLN Program
Career Services Program	PCLP Program
Field Placements	Practicum classes
Networking	Paid Internships
Zoom Career Training Workshops (Ex; grant writing, resume building, interview prep)	Research

Table F10: Useful Career Services

Note: Responses listed were combined from question 3 and 4 summary of the 20 short answer responses to the questionnaire

Q6: Were there any barriers to using career services? (ex: time constraints, unaware of services, etc.)

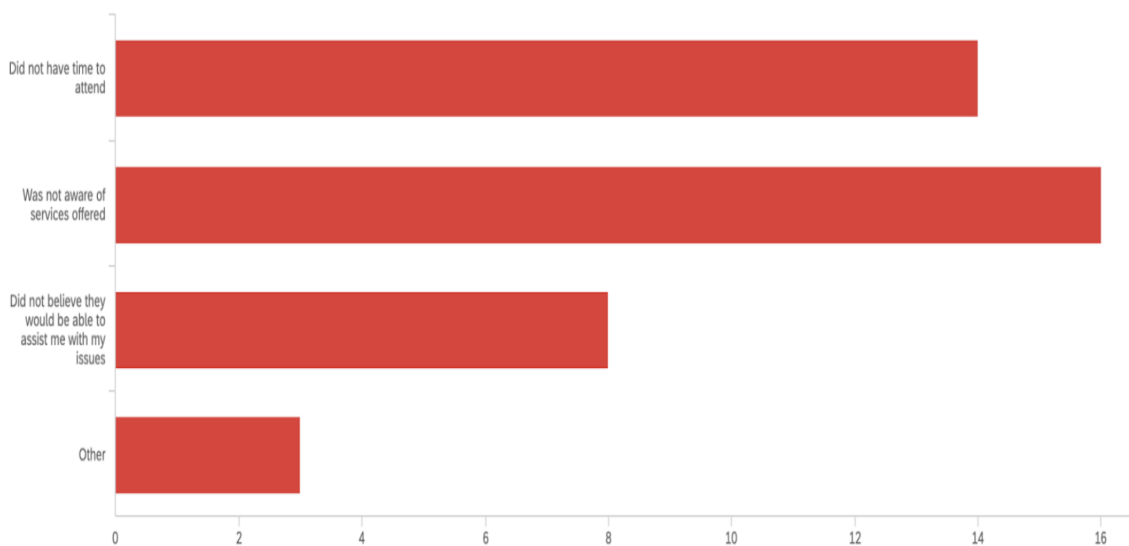


Figure F11: Career Services Barriers

Focus Group Results

Q1: How valuable do you feel this experience was to your professional development? (numerical scale of 0-5)

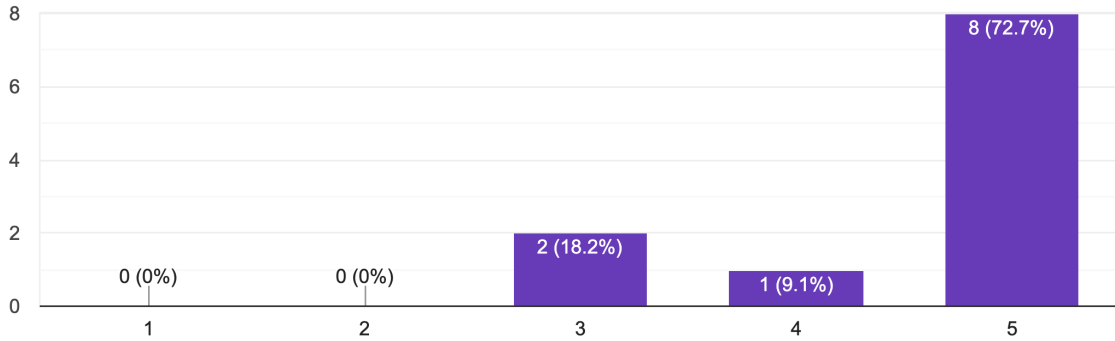


Figure F12: Value of Experience

Q: 2 and 3: What skills did you receive from this experience? How well do you feel this experience prepared you for your future professional endeavors?

Leadership Experience	Communication	Mentoring Experience
<ul style="list-style-type: none"> Practice questioning potential employees and conducting one’s self in leadership role Increased confidence and comfort in leadership position 	<ul style="list-style-type: none"> Proper interview communication and etiquette Increased ability in providing constructive criticism 	<ul style="list-style-type: none"> Effectively Providing feedback to undergraduate nurses Providing direction and career advice to prospective registered nurses

Note: Responses listed were a summary of the themes and topics of 11 short answer responses to the focus group questionnaire

Figure F13: Skills Acquired From Experiences

Q4: *Have you had any simulated professional development experiences prior to the simulated interviews from either your current program or any other prior course work here at Stony Brook University?*

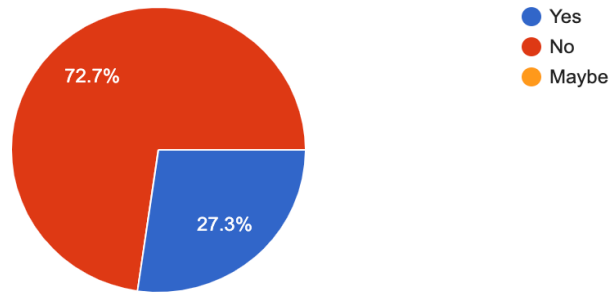


Figure F14: Additional Simulation Experiences

Q5: *Have you had any prior multidisciplinary experiences where you collaborated on projects/assignments with students of other programs?*

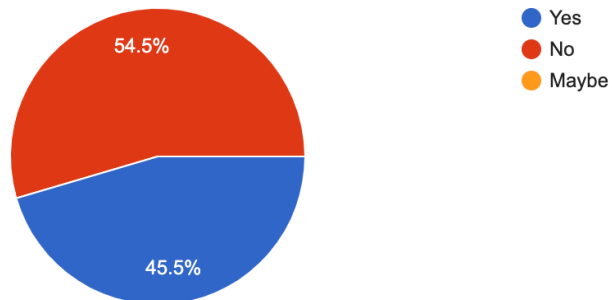


Figure F15: Additional Multidisciplinary Experiences

COVID-19’s Impact on Minority Students

We believe that it would be a disservice to the university that while exploring the topic of COVID-19’s impacts on student career success, we did not include the disproportionate effects this pandemic has had on its disadvantaged students. It has been no surprise that people of color have been affected by this pandemic at significantly higher rates than Caucasian populations. According to the Commonwealth Fund COVID-19 survey African & Latino Americans reported experiencing severe economic hardship as a result of the pandemic, which was more than 21% of Caucasian respondents. They also report that African & Latino Americans have reported pandemic-related mental health concerns at a rate approximately 10 points higher than whites (Getachew 1). The estimated educational achievement gap will be 15-20% between white and minority students following the pandemic (Don 1). These are only a few of the scary statistics that our minority students are now living out -- so we conducted a focus group with leaders of African Student Union, Black Student Union, & Undergraduate Student Government to learn what our fellow students were experiencing and how SBU can address those needs.

Focus Group Results

Q1: *How do you believe COVID-19 Had Impacted Minority Students?*

<i>“Disproportionately impacted the mental health of our minority students. Socioeconomic status and wealth disparities brought by systematic racism are at the root of this issue.”</i>
<i>“Many minority students aren’t able to come to campus to escape rough home situations and are unable, so they are stuck in unstable homes and now minority students aren’t doing well on exams”</i>
<i>“Hate crimes have been at an all-time level, it’s very hard to focus on your work with everything going on. Especially when there is no break during the semester”</i>

Figure G1: COVID-19’s impact on minority students

Q2: *Is there anything you wish the University did better with their protection of minority students on campus in these times*

<i>“Police brutality has had a traumatic impact on many of us. We weren’t given time to take a breath or grieve. We dealt with our assignments while battling trauma brought about by civil unrest going on in our nation.</i>	<i>“More communication and collaboration with minority students on the many issues surrounding social justice and police brutality.”</i>
<i>More scholarship opportunities solely devoted to minority students.</i>	<i>Wellness days would be very beneficial to overall student well-being</i>
<i>Having the University in contact with RAs, and other social media platforms to really blast messages of support for their students of color would be very beneficial.</i>	<i>More people of color in CAPS would be very beneficial to overall minority student well-being”</i>

Figure G2: Potential improvements for the University

Q3: What did the University do well in their protection of minority students on campus?

<p>"Nothing spectacular comes to mind aside form mental health check emails we received throughout the year."</p>	<p>COVID-19 scholarship funds</p>
<p>"Off the top of my head I don't know of any. I think a big sentiment going around the minority presence on campus is not being aware of a lot of the opportunities presented, if there are any, to further protect our BIPOC students -- besides some emails which are hard to locate due to the current flood of emails"</p>	<p>They have made their best effort in the past 4 years to begin the dialogue of racial tension and social justice, and that's a big step in the right direction</p>
<p>Putting out statements on how COVID has impacted the campus, and in regards on what to do. This gave students a solid way to plan their semester</p>	<p>Standing strong on their support of BLM and the social injustices taking place</p>

Figure G3: Positive Responses from the University

Student Resources and Career Development

When evaluating how to help students with career development, it is important to consider the impact that socioeconomic factors and financial barriers have on students' career development. Research shows that significant financial barriers severely impact a student's career development. Matthew T. Hora, Matthew Wolfram, and Zi Chen did research on how financial barriers impact the career development of college students which was published by the Wisconsin Center for Education Research School of Education at the University of Wisconsin-Madison. The researchers found that low-income and/or first-generation college students often have financial barriers that impact their career development (Hora et al). There is an increasing number of unpaid internships while the number of paid internships is decreasing, this contributes to financial restraints on students as many have additional living expenses to pay for. The researchers found that there was a growing number of students that are "working multiple part-time jobs, taking out additional loans, or even skipping meals in order to add the all-important internship to their resume," and this causes worry that internships may represent how privilege and wealth contribute to career development.

It is important to consider how financial restrictions impact career development. Without the financial means, students may be unable to afford transportation, professional attire, or additional expenses that are essential to maintain an internship or job. Additionally, a student may have to sacrifice an unpaid internship in her intended field of study in order to work a part-time job in retail in order to pay for her living expenses. It is also important to consider that a student's need for financial income may cause them to abandon career development opportunities in order to maintain a stable income through a part-time or full-time job outside of their intended career field.

In addition to financial barriers, access to a personal laptop greatly impacts a student's career development. Laptops enable students to network, apply for jobs, gain skills in Microsoft

Office, and perform additional tasks that contribute to their career development. Without reliable access to a computer, many students would be unable to expand their career development skills and find potential job opportunities.

At Stony Brook University, there are many students who come from lower socioeconomic backgrounds. Many of these students have financial barriers, and we aimed to assess how this impacted their career development. Additionally, we wanted to learn if students have reliable access to a computer. Therefore, we interviewed the Student Support Team and Dr. Judy Brown Clarke in order to learn how financial barriers impact the career development of Stony Brook students.

Interview with the Student Support Team

The Student Support Team helps students with many of the challenges that they face while a part of the Stony Brook University community, including financial barriers (“Home”). The members of the Student Support Team are currently Greta Strenger, Carolyn Stephenson, and Ellen Driscoll. We interviewed all three members of the Student Support Team in order to learn more about the financial barriers Stony Brook University students face and how it impacts their career development.

There are students at Stony Brook University who face their own financial obstacles, and this has only seemed to increase due to the pandemic. Since the COVID-19 pandemic has begun, the Student Support Team has seen a rise in students asking for financial assistance. The Student Emergency Support Fund provides resources to matriculated Stony Brook undergraduate and graduate students who are experiencing unexpected financial crises. The Student Emergency Support Fund is in place for students who have exhausted all other traditional institutional, federal, and state resources within their total cost of attendance (ie: all available Financial Aid, including loans). The Student Support Team has seen a rise in students in need of emergency funds that have submitted inquiries in regards to the Emergency Student Support Fund.

In addition to requests for emergency funds, the Student Support Team has also noticed that there has been a rise in students who are in need of laptops in order to complete their online coursework. Stony Brook University has recently created a Laptop Loan Program for students through partnership by Stony Brook University Libraries and the Division of Information Technology (“Laptop Loan Program for Students”). Through this program, students in need of their own laptops can borrow laptops (HP laptops (model HP 250 G7) and Dell laptops (model Latitude 5500) are available for borrowing).

There has been a rise in students who are in need of laptops and emergency funds and these financial barriers can stand in the way of career development. Students that have to worry about student loans or financial emergencies may not be able to continue their education that prepares them for their intended careers. Additionally, financial obstacles may impact a student's ability to pursue potential career opportunities. Students may be unable to gain

transportation to commute to an internship within their intended career field or may have to sacrifice an internship within their intended career fields because it does not pay as much as their current jobs. Additionally, inaccessibility to a computer can deeply harm their career development since they will be unable to apply for jobs, complete their coursework, or network within their intended career fields. In addition to connecting students with the Emergency Student Support Fund and the Laptop Loan Program, the Student Support Team has planned on aiding students with financial barriers and increasing career development through a proposal to provide some practical and transferable work experiences to students.

Interview with Dr. Judy Brown Clarke

In addition to the Student Support Team, our members of COSA interviewed Dr. Judy Brown Clarke, Vice President of Equity & Inclusion and Chief Diversity Officer, in order to learn more about financial barriers that may impact a student's career development. We specifically sought to learn more about the barriers minority students and students of a lower socioeconomic status face that impact their career development.

Dr. Clarke illustrated that a lack of available internships and campus jobs greatly impacts minority students and students of lower socioeconomic status. These campus internships and jobs not only supply students with a stable source of income, but additionally provides them with career development experiences. Additionally, campus jobs and internships allow students to save on travel costs and thus allows them to save more money than they would at an off-campus job or internship. Unfortunately, due to the COVID-19 pandemic, there has been a lack of available on-campus jobs and internships.

Dr. Clarke explained that in response to the lack of available campus jobs and internships, Stony Brook University will be creating on-campus jobs and internships specifically for minority students and students of lower socioeconomic status. Additionally, these jobs and internships will be targeted towards social justice work on campus and enable students to gain experience in social justice.

Conclusions on Student Resources and Career Development

Based on our interviews with Dr. Judy Brown Clarke and the Student Support Team, we found that there are many Stony Brook University students who face financial barriers that negatively impact their career development. Additionally, there are students that do not have their own personal computers or reliable access to a computer outside of Stony Brook University.

Both interviews demonstrated that the decrease of on-campus jobs and internships has negatively impacted Stony Brook University students. Having less available on-campus jobs and internships means that students have fewer opportunities to gain career development experiences and a reliable source of income. By providing more on-campus jobs and internships,

Stony Brook University would be better able to help students with financial barriers and help them with their career development.

Through our interview with the Student Support Team, we found that it may be advisable to increase the Student Emergency Support Fund. Due to the COVID-19 pandemic and decreasing availability of on-campus jobs and internships, more students are facing financial hardships and require assistance through the Student Emergency Support Fund. It may be beneficial to increase fundraising efforts for the Student Emergency Support Fund. Perhaps within the upcoming year, it may be possible to hold in-person fundraising events, such as a gala, in order to raise funds for the Student Emergency Support Fund.

Through our interview with the Student Support Team, we were able to learn more about the Laptop Loan Program through Stony Brook University. This is certainly a great program, however, it fails to provide students with access to a laptop outside of the academic year. Many students need a laptop during the summer at the end of the Spring semester as this is seen as an ideal period of time to get internship and job opportunities and expand on their career development skills. Additionally, many students are not supplied with jobs immediately after commencement and would need a laptop during the summer to apply for jobs and to network. Perhaps Stony Brook University can do additional research to find ways to give students permanent access to computers that they can use even after the end of the academic year.

Discussion & Recommendations

Job Fair Survey

Based on the differences in ranking found by students and employers it could be concluded that there is a misalignment of what Career Competencies are considered the most valuable. It is recommended that the University should continue to reach out to local businesses and other agencies to further align the course curriculum with their expectations. Further discussion of Career Competencies and other reconsiderations can be found in the Alumni section of this section.

Student-Athletes

There are several initiatives that Stony Brook can implement to improve the career development experiences of student athletes. As an overwhelming majority of student athletes expressed that CAR 110 was helpful in their career development, Stony Brook can expand the outreach of CAR 110 or similar career development courses to all students. This can be done through offering that topic as a FYS 102 course, or offer it as a way to fulfill SBC requirements beyond EXP+. Further, Stony Brook can create a sequence of courses continuing from CAR 110 and 210 that students can take to get upper division credit, which is needed to graduate.

Another major improvement that could be made is the website for the Center for Remote Internships and Experiential Learning. Currently, the website only has information for internship sites or employers regarding how to post opportunities. The site should be revised to add an area to also appeal to students seeking these opportunities, so that there is a central and organized location where they may browse their options. The Center for Remote Internships and Experiential Learning may also make an effort to work with employers to create micro and macro internships for student athletes with rigid schedules to fit into their days and athletic schedule.

Engineering Students

There are numerous initiatives and minor changes that could be implemented to help engineering students develop soft skills, further enhance their technical skills, and better prepare them for the professional industry. One recommendation is to increase the length of mentorship programs from first-year programs to all four years or at least in some moderation or alterations of them. This would allow for increased communication between mentors and mentees of all years and be a constant presence in the journeys of students. One potential avenue would be a joint program with the Institute of Advanced Computational Science (IACS). STRIDE Coordinator, Dr. Jennifer McCauley has expressed interest in assisting the development of an interdisciplinary mentoring program of IACS mentors and engineering students. In terms of communication, there could be an increase in communication between departments and students about different internship/job opportunities, research positions, networking opportunities, alumni/recent graduate panels, company representatives, etc.

Students have also mentioned that professional certifications could be included into the curriculum that cover a variety of topics and interdisciplinary studies. This could be including what is currently trending in the industry or relative to the course the student is enrolled in. This could be further enhanced by the inclusion of having special guest speakers for a portion of the class (like deans, professors, department chairs, alumni) which allows for students to get to know their department better and create more personal connections with their professors and major. Another improvement is to have more integration within the departments of the College of Engineering and Applied Sciences (CEAS) to allow for students to meet and interact with each other. This not only helps students learn about different opportunities in STEM but also helps them develop social and communication skills with students outside of their department.

Undergraduate Students

Based on our analysis, there are several recommendations for improving the quality of resources and communication with undergraduate students on and off-campus. We also have suggestions as it relates to the post-covid conditions of undergraduate students that will be beneficial to their career development and the richness of their multidisciplinary education. In

regards to communication, one major demand was an increase in social media presence and promotion of resources. This can be improved by formatting a group that can evaluate the algorithms of social media outlets such as Instagram to guarantee that there is enough push to promote resources provided by the Career Center and its affiliation. Another suggestion can be engaging more on zoom during the pandemic. Many classes have been online, so having a representative speaking at specific classes with permission from the professor will be beneficial to student engagement. This can also be implemented in club or organization general body meetings, especially professional organizations on campus such as the Pre-Med Society. In addition, we recommend an enhanced system to filter or tailor emails to each students' selected interest. A variety of emails can be overwhelming to navigate, so giving students the option to narrow down their interests can help them pinpoint resources directly suitable for their needs.

In terms of improving specific resources provided by the Career Center, we recommend a review and enhancement of more hands-on experience that we believe will increase the students' confidence level in their intended field of study. We would like to highlight the interactive resources such as career coaching, career meetups, and job shadowing for review. We found that a majority of undergraduate students were unaware of these resources and believe this would have been most beneficial to their career development especially during the pandemic. These interactive resources will allow students to connect directly with their intended career field and develop essential networking skills. During a time of overall remote communication, this can boost undergraduates' engagement and confidence level.

Alumni

Our recommendations after continuous research and analysis of student surveys are as follows. One recommendation is to provide increased and personalized advertisement of career services specifically tailored to the alumni population. For example, using social media platforms to reach students and offer personalized information that caters to different students' interests. The Career Center and Alumni Relations Department can use these platforms to show job and internship opportunities, coaching, resume/cover letter reviews, and other services based on career goals and tips on navigating the post-COVID workforce. More effective advertising over social media or email may help to boost engagement with career services for alumni, however, may also serve to oversaturate social media further — thus if additional advertisement were to take place this should be taken into careful consideration. The ultimate goal of this recommendation is to increase usage of services offered to alumni and improve alumni satisfaction. It is our hope that this will in turn lead to stronger ties based on better interpersonal relationships.

Next, we recommend the potential review of current “career competencies” as employed by the Career Center to evaluate whether any should be added or changed. The current career competencies are: Critical Thinking/Problem Solving, Oral/Written Communication,

Teamwork/Collaboration, Digital Technology, Leadership, Professionalism/Work Ethic, Career Management/Self-Awareness, and Global/Intercultural Fluency. While we do not believe it to be necessary to edit or remove any of these current competencies, it may be beneficial to add skills centered around engagement with others in the workplace. For instance, “Engaging Differences” and “Ethical Thinking” were both raised in our Focus Group as potential additions. Furthermore, we believe current undergraduate students would benefit from programming centered around these career competencies so that they are better aware of the skills employers will be expecting from them once they enter the workforce.

In addition, we recommend increasing alumni awareness of common digital skills and platforms that are needed for employment. For instance, this might involve developing asynchronous/recorded programming such as walkthroughs or written materials on skills, techniques, and platforms. These can be published online so that they are easily accessible to alumni who can review them when looking to brush up on these skills as they pertain to their careers.

Finally, for soon-to-be alumni, we also recommend more emphasis on interdisciplinary studies and projects. Working between fields is the best way to broaden student skill sets and simulate accurately the work in the real world. As shown in other sections of our research, interdisciplinary project teams can be an incredible experience for students with incredible positive impact. Project-based classes or project-based extracurriculars for the humanities, arts, and other undergraduate majors can help build the confidence of students to tackle real world challenges. Stressing the need for interdisciplinary experiences might translate into better-prepared alumni, as being able to think and work outside of the confines of one’s undergraduate major is a highly sought after skill in the workforce.

Graduate Students

The culmination of all of our research including our quantitative data, focus group results, and faculty interviews have pointed to very similar trends in regards to both the successes and needed areas of improvement in the realm of graduate student career development. They have also shed light on many of the unique challenges that graduate students are facing in the current climate of pandemic. Our initial graduate survey data has revealed that students that have already had opportunities to participate in multidisciplinary learning experiences have found them to be very useful to their career development. In addition to this, our final survey data confirms that in the population that has yet to have this experience, there is a strong interest in participating when the experiences were defined to them. Our focus group data also had overwhelmingly positive experiences with their multidisciplinary simulation and even reported specific career competencies they earned from the experience such as leadership and communication. Further research in the potential of creating more multidisciplinary experiences for students, similar to IACs and Master’s Nursing program Simulations, is necessary to help create innovative opportunities for experiential learning and collaboration that help students develop career competencies.

Our research also indicated a strong desire from graduate students to potentially have career development intertwined within their curriculum. While this desire is indicated in the student population, it has yet to be studied among the faculty. Further exploration into student as well as faculty interest in having career development implemented within the program should be conducted to confirm the interest and continued research and observation of current programs that successfully have already combined career development within curriculum requirements. Working towards a more direct implementation of career development within curriculum could potentially allow students to overcome time constraints that prevent them from pursuing career development programs and help them more directly relate their technical skills and formal education to specific career competencies.

Another continued theme of our results was a reporting of a lack of awareness of the currently offered career development programs. This was confirmed in both our survey data and in our faculty interviews. In addition to both a general lack of awareness, a general sentiment also exists amongst the graduate students that the career services center and its services are mostly intended for undergraduate student use. There is a significant portion of graduate students that are not aware that there are career services not only accessible to them, but specifically geared towards their needs. Creating more outreach opportunities involving both students/graduate program faculty and career services could potentially close the current knowledge gap that exists.

Lastly, in our initial survey, we looked into the current usage of individual development programs (IDP) for approval of funding for certain graduate research programs. Preliminary data indicated that over half of the students who were required to have an IDP reported that they were either extremely helpful or very helpful in their career development. Based on our data and research into the successful pilot program conducted by Stanford University that required an IDP of all biosciences majors regardless of NIH funding status (Stanford, 2019), we would suggest continued exploration into similar programs and possibly extending SBUH current utilization of the individual development program.

COVID-19's Impact on Minority Students

It is evident that COVID-19 has had a significant impact on our minority students, and that we need to do a better job of protecting them during these times and beyond. The Focus Group spread light on students not feeling protected during the social injustices going on around the nation. One solution is to increase the number of ways of displaying support for these groups. Such as increased communication with RAs, Employers, and Faculty on campus to get the message out of further support and protection of minority students. Another way to address this problem is to increase diversity in CAPS, allowing students to better relate to the mental health professionals. We also believe that increased communication with the President's Office and groups like Black Student Union, The Black and Brown Caucus, Latin American Student Organization etc., will be beneficial to continually gauge how SBU is doing in regards to racial inclusion and student protection. Even further than that we recommend the implementation of

a council that combines these two areas (student organizations and the President's Office), taking students from each group and allowing them to work together on a project each year addressing issues of diversity and inclusion at Stony Brook University. Lastly, mandatory wellness days for students would benefit not only minority students, but students as a whole deal with the many types of stressors brought on by the pandemic and other difficult current-day events.

Student Resources and Career Development

Based on our research, we have determined that financial barriers negatively impact the career development of low-income students and students of a lower socioeconomic status. We found that the decrease of on-campus jobs and internships as a result of the COVID-19 pandemic has left many students without career development experiences and a stable source of income. Additionally, as a result of the pandemic, more students are encountering financial hardships and are applying to the Student Emergency Support Fund as a result. The Laptop Loan Program has done a wonderful job in assisting students with financial barriers in gaining computer access, however, students can only borrow the laptops within the academic year which poses a problem for students who wish to expand their career opportunities over the summer or after graduation. Based on these conclusions, we have the following recommendations in regards to student resources and career development.

First, we advise that Stony Brook University finds ways to increase on-campus jobs and internships for students who have financial barriers. By providing more on-campus jobs and internships, Stony Brook University would be better able to help students gain a stable source of income and expand their career development. Additionally, on-campus jobs and internships do not force students to travel which can have negative impacts on students' time management and financial burdens.

Second, we found that it may be advisable to increase the Student Emergency Support Fund. Due to the COVID-19 pandemic and decreasing availability of on-campus jobs and internships, more students are facing financial hardships and require assistance through the Student Emergency Support Fund. It may be beneficial to increase fundraising efforts for the Student Emergency Support Fund. Perhaps within the upcoming year, it may be possible to hold in-person fundraising events, such as a gala, in order to raise funds for the Student Emergency Support Fund.

We also advise that Stony Brook University pursues additional research to find ways to give students permanent access to computers that they can use after the end of the academic year. The Laptop Loan Program is certainly a great program, however, it fails to provide students with access to a laptop outside of the academic year. Many students need a laptop during the summer at the end of the Spring semester as this is seen as an ideal period of time to get internship and job opportunities and expand on their career development skills.

Additionally, many students are not supplied with jobs immediately after commencement and would need a laptop during the summer to apply for jobs and to network.

We kindly request that you consider these recommendations that we have outlined within our research report. We believe that these recommendations can allow Stony Brook University to better aid students with their career development and their success.

Final Remarks

The goal of our research was to assess how Stony Brook University has enabled specific student populations such as Student Athletes, Engineering Students, WISE/CSTEP Students, Undergraduate Students, and Graduate Students to gain necessary skills for career development. Based on our research we have determined that these student populations need more opportunities to expand their career development and soft skills. Additionally, it is not only important to assess how we can increase career development in different academic programs and departments, but it is also important to understand how socioeconomic factors can impact a student's career development. We hope that through this research report, we are able to spread some light on the areas of career development that can be improved in Stony Brook University's academic programs and amongst student populations so that we may better equip our students with the skills they need to succeed.

Bibliography

Alter, Charlotte. "How COVID-19 Will Shape the Class of 2020 For the Rest of Their Lives." *Time Magazine*, 20 May 2021,
<https://time.com/5839765/college-graduation-2020/>.

"Career Competencies." *Career Center*, Stony Brook University,
<https://www.stonybrook.edu/commcms/career-center/undergraduate/careersuccessstools.php>.

Don, Emma. "COVID-19 and student learning in the United States: The hurt could last a lifetime." *McKinsey & Company*, vol. N.A., no. N.A., 2020, p. 1. *McKinsey & Company*,
<https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime#>
.

Getachew, Yaphet. "Beyond the Case Count: The Wide-Ranging Disparities of COVID-19 in the United States." *The Commonwealth Fund*, vol. N/A, no. N/A, 2020, p. 1. *The Commonwealth Fund*,
<https://www.commonwealthfund.org/publications/2020/sep/beyond-case-count-disparities-covid-19-united-states>.

Guyot, Katherine, and Isabel Sawhill. "Telecommuting will likely continue long after the pandemic." *Brookings*, 6 April 2020,

<https://www.brookings.edu/blog/up-front/2020/04/06/telecommuting-will-likely-continue-long-after-the-pandemic/>.

“Hard Skills vs. Soft Skills.” *Indeed*, 25 November 2020,

<https://www.indeed.com/career-advice/resumes-cover-letters/hard-skills-vs-soft-skills>.

Kelly, Jack. “Nearly 50 Million Americans Have Filed For Unemployment—Here’s

What’s Really Happening.” *Forbes*, 9 July 2020,

forbes.com/sites/jackkelly/2020/07/09/nearly-50-million-americans-have-filed-for-unemployment-heres-whats-really-happening/?sh=5cdaffd927d3.

Kochhar, Rakesh. *Unemployment rose higher in three months of COVID-19 than it did in two years of the Great Recession*. Pew Research Center, 2020. *Pew Research Center*.

Oreopoulos, Philip, et al. “The Short- and Long-Term Career Effects of Graduating in a Recession.” *American Economic Journal: Applied Economics*, vol. 4, no. 1, 2012, pp. 1-29. *American Economic Association*,

<https://pubs.aeaweb.org/doi/pdfplus/10.1257/app.4.1.1>.

PhD Career Ladder Program. “About PCLP.” *Stony Brook Commons*, 2015,

<https://www.stonybrook.edu/commcms/phd-career-ladder/overview/>. Accessed 25 May 2021.

“Stony Brook University College of Engineering and Applied Sciences.” *Stony Brook University College of Engineering and Applied Sciences*, Stony Brook University, <https://www.stonybrook.edu/far-beyond/downloads/pdf/admissions/programs/Stony-Brook-Engineering-and-Applied-Sciences.pdf>.

“Women in Science and Engineering (WISE).” *Stony Brook University College of Engineering and Applied Sciences*, Stony Brook University, <https://www.stonybrook.edu/commcms/wise/index.html>.

Your Individual Development Plan and Planning Meetings:

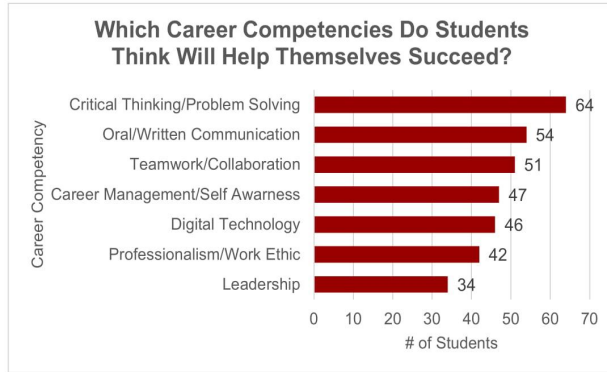
StanfordBiosciencesStanford Biosciences. Stanford Biosciences. (2019, June 7). <https://biosciences.stanford.edu/current-students/idp/>.

Appendix

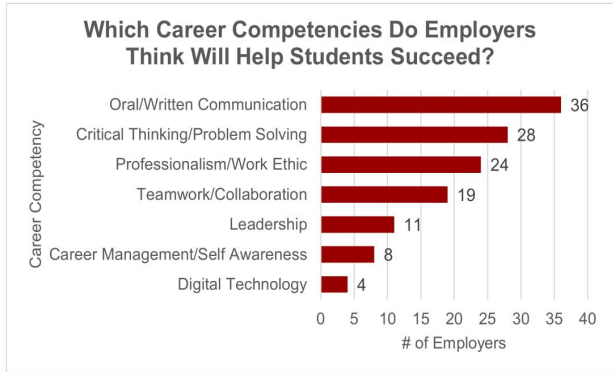
Section A: Job Fair Survey

Fall 2020 COSA Career Competency Student & Employer Report

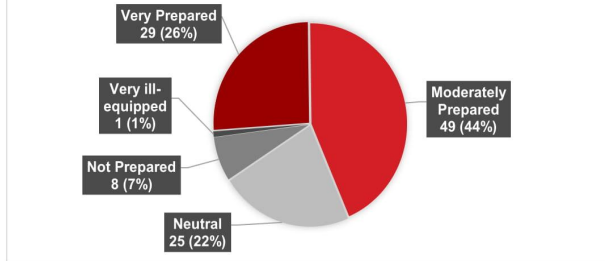
Based on **112** student survey responses
(Students could choose their top 3 career competencies)



Based on **45** employer survey responses
(Employers could rank their top 3 career competencies)



How prepared do students feel to succeed in a post-COVID environment?



70% of students feel prepared to succeed in a post-COVID environment.

Figure A1 : Career Competency Survey Report

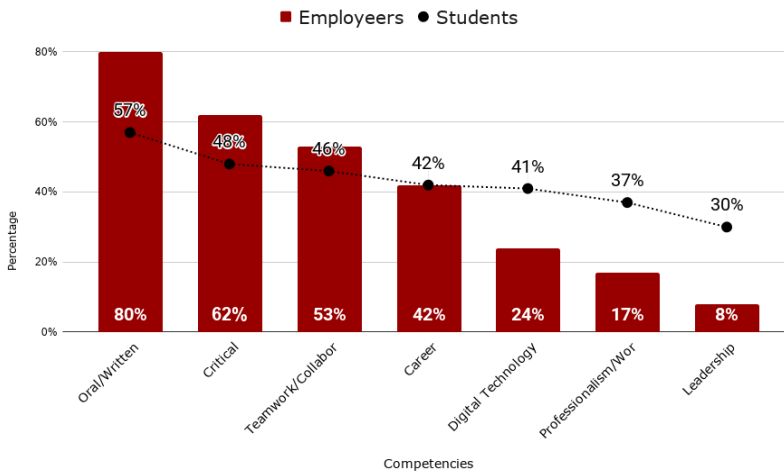


Figure A2 : Differences in ranking between employers and students

Section B: Student Athlete

Focus Group Questions

1. Which of the following career services or career development programs have you utilized in the past? (Provided by student-athlete life skills or in collaboration with Career Center)
 - Interview Preparation Session
 - Resume Review
 - Mock Interview
 - Professional Attire Workshop
 - Career Nights with Alumni
 - Micro Internships with the Career Center
 - Career 110 course
 - Mentoring

2. [Scale Bar] Rate your ability to communicate experiences and development as a student-athlete as transferable skills to a future employer verbally during an interview.
 - 1 - Very poor,
 - 2 - Poor,
 - 3 - Fair,
 - 4 - Good ,
 - 5 - Very Good)
 - Unsure

3. [Scale Bar] Rate your ability to communicate experiences and development as a student-athlete as transferable skills to a future employer in writing in the form of a cover letter or resume.
 - a. 1 - Very poor,
 - b. 2 - Poor,
 - c. 3 - Fair,
 - d. 4 - Good ,
 - e. 5 - Very Good
 - f. Unsure

4. [Scale Bar] Rate your ability to network with alumni or potential employers in a group setting either virtual or in person.
- a. 1 - Very poor,
 - b. 2 - Poor,
 - c. 3 - Fair,
 - d. 4 - Good ,
 - e. 5 - Very Good
 - f. Unsure

Open Ended Questions

- 5. Describe any additional preparation that you feel you need / you wish you were able to have as a student athlete that would equip you to find a job after graduation?
- 6. How prepared do you feel you are for the career you would like to pursue after graduation?

Section C: Engineering Students

Mid-Year Survey

- 1. What skill(s) do you think is crucial to your success in finding work? Select all that apply.
 - Being flexible in new environments
 - Collaboration with others
 - Technical skills
 - Interpersonal skills
 - Resiliency in times of difficulty
 - Communication skills
 - Problem-solving abilities
 - Networking skills
 - Decision-making abilities
 - Leadership skills
 - Other:

- 2. What skill(s) have you acquired at Stony Brook University? Select all that apply.
 - Being flexible in new environments
 - Collaboration with others
 - Technical skills
 - Interpersonal skills
 - Resiliency in times of difficulty
 - Communication skills

- Problem-solving abilities
 - Networking skills
 - Decision-making abilities
 - Leadership skills
 - Other:
3. Does your primary academic department offer you opportunities to study and work with other departments?
- Yes, other departments within the College of Engineering and Applied Sciences
 - Yes, other departments outside of the College of Engineering and Applied Sciences
 - No
 - Other:
4. Within the following situations, please rate the degree of concern you have for finding employment:
- Not applicable/unsure
 - Not at all concerned
 - Moderately concerned
 - Very concerned
 - i. After graduation during the pandemic
 - ii. After graduation in general
 - iii. In time for graduation
 - iv. While currently enrolled
5. In what ways is the College of Engineering and Applied Sciences preparing you to find an internship or full-time job?
- Virtual networking session with employers and alumni
 - Academic Advising
 - Workshops and Events geared towards professional development
 - Virtual office hours
 - Integration of opportunities with professional development organizations (SWE, NSBE, SASE, SHPE, WiCS, SBCS)
 - Email opportunities and upcoming deadlines
 - Aiding in your attendance at National Conferences
 - Career Advising
 - Other:
6. Do you feel you are offered enough opportunities of the following?
- Yes
 - i. Events
 - ii. Workshops
 - iii. Networking

- iv. Mentoring
- No
 - i. Events
 - ii. Workshops
 - iii. Networking
 - iv. Mentoring

End-Year Survey

1. What skill(s) have you learned during your time at Stony Brook University? (Select all that apply)
 - Being flexible in new environments
 - Collaboration with others
 - Technical skills
 - Interpersonal skills
 - Resiliency in times of difficulty
 - Communication skills
 - Problem-solving abilities
 - Networking skills
 - Team-building skills
 - Decision-making abilities
 - Leadership skills
 - Other:

2. How is your department of engineering preparing you as a student in finding an internship or full-time job during the pandemic of COVID-19?
 - Virtual networking session with employers and alumni
 - Virtual office hours
 - Integration of opportunities with professional development organizations (SWE, NSBE, SASE, SHPE, WiCS, SBCS)
 - Email opportunities and upcoming deadlines
 - Aiding in your attendance at National Conferences
 - Other:

3. If you cannot find a job for after your graduation, what would be your plans? (Select all that apply)
 - Accelerated Masters Program (at Stony Brook University)
 - Seek a research position
 - Become a TA/Lab Instructor (Stony Brook University)
 - Graduate school (not Stony Brook University)
 - Work under a Stony Brook University Professor
 - Start your own company or non-profit organization

- Volunteer at a local company or school
 - Work for a non-profit organization
 - Other:
4. What is the best part of being involved in CSTEP/WISE? (Select all that apply)
- Internship/Research Opportunities
 - Professional Development
 - Career Advising
 - Academic Advising/Academic Support
 - The individuals I have met in the program
 - Workshops/Events
 - Mentoring
 - Development Of Soft Skills
 - Tutoring
 - Academic Courses
 - Other:

Focus Group Survey

7. What skill(s) have you learned during your time at Stony Brook University? (Select all that apply)
- Being flexible in new environments
 - Collaboration with others
 - Technical skills
 - Interpersonal skills
 - Resiliency in times of difficulty
 - Communication skills
 - Problem-solving abilities
 - Networking skills
 - Team-building skills
 - Decision-making abilities
 - Leadership skills
 - Other:
8. How is your department of engineering preparing you as a student in finding an internship or full-time job during the pandemic of COVID-19?
- Virtual networking session with employers and alumni
 - Virtual office hours
 - Integration of opportunities with professional development organizations (SWE, NSBE, SASE, SHPE, WiCS, SBCS)
 - Email opportunities and upcoming deadlines
 - Aiding in your attendance at National Conferences
 - Other:

9. If you cannot find a job after your graduation, what would be your plans? (Select all that apply)
- Accelerated Masters Program (at Stony Brook University)
 - Seek a research position
 - Become a TA/Lab Instructor (Stony Brook University)
 - Graduate school (not Stony Brook University)
 - Work under a Stony Brook University Professor
 - Start your own company or non-profit organization
 - Volunteer at a local company or school
 - Work for a non-profit organization
 - Other:
10. Are you currently in WISE or CSTEP?
- WISE
 - CSTEP
 - Both (WISE and CSTEP)
 - Neither (WISE or CSTEP)
11. If currently in CSTEP/WISE: What is the best part of being involved in CSTEP/WISE? (Select all that apply)
- Internship/Research Opportunities
 - Professional Development
 - Career Advising
 - Academic Advising/Academic Support
 - The individuals I have met in the program
 - Workshops/Events
 - Mentoring
 - Development Of Soft Skills
 - Tutoring
 - Academic Courses
 - Other:
12. *Short Response:* If currently in CSTEP/WISE: Do you think CSTEP/WISE helped you during this pandemic in achieving your goals (academic/personal/professional)?
13. *Short Response:* What is something that your department and/or CSTEP/WISE do well that you think other universities/colleges do not?
14. *Short Response:* Does your department of engineering currently offer anything that allows you to interact with other departments? Any kind of integration of departments or courses?

15. *Short Response:* Any other organizations/clubs that you are a part of that goes above and beyond in helping you both academically and professionally during these unprecedented times? Why?
16. *Short Response:* Are there any recommendations for the future you have for your department of engineering and/or CSTEP/WISE to improve their programs?

Section D: Undergraduate Students

Mid- Year Survey

1. Do you believe that your major **directly aligns** with the career path that you choose? (For example, to become a journalist do you need to be a writing major? Or to be a financial consultant do you need to be an economics major?) *Scale*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

2. Have you ever been employed on campus?

- No
- Yes

3. Have you gained any skills at that job that you feel are beneficial to your intended career?

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

4. Do you feel confident in your ability to accurately discuss those skills in a professional environment like a job interview?

1. Yes
2. No
3. Somewhat

5. Have you used any resources available at the career center?

- a. Yes

6. Please select which resources you have used.

- Career Coaching

- Handshake
- Career Meetups
- Job Fairs
- Workshops
- On Campus Recruiting
- Resume and Cover Letter Review
- Network and Mentoring Program
- CAR Courses
- Job Shadowing
- Other (free response)

7. Which of the following skills do you feel career services have helped you with?

- Establishing Career Goals
- Finding Employment Opportunities
- Resume Building
- Interview Preparation
- Weighing Your Options (Exploring Different Career Options)
- Internships
- None of the following

b. No- those who answered no to question 5.

8. You indicated that you have not used any resources available through the career center, which of the following were likely reasons? Select all that apply.

- Unaware of resources altogether
- Unsure about how to ask for help
- Inconvenient hours/location
- Resources did not align with my major
- Not yet a priority for me
- Other (please specify)

9. Please rate the following career competencies, or skills, in terms of their value in helping you succeed in the future job market?

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

What career competencies, or skills, do you think would better equip you to succeed in the post-covid job market? (Select the top three that apply)

1. Critical Thinking/Problem Solving
2. Oral/Written Communication
3. Teamwork/Collaboration

4. Digital Technology
5. Leadership
6. Professionalism/Work Ethic
7. Career Management/Self-awareness (the ability to identify and articulate one's skills and experiences, as well as identify areas for improvement)

10. Interdisciplinary work is defined as people from different parts of science coming together to work on a focused problem. How aware are you of opportunities to pursue interdisciplinary work?

- Aware
- Somewhat Aware
- Not Aware

11. Are you interested in learning about other fields of study unrelated to yours?

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

12. Please share why you answered the previous question as you did:

13. To what degree has the COVID-19 pandemic affected your confidence in being successful in your intended career field?

1 - None or very little; I still feel very confident that I will succeed in my intended career ... to ... 5
- Significantly; I don't feel confident at all that I will succeed in my intended career

- 1- None or very little
- 2
- 3
- 4
- 5- Significantly

Final Year Survey

1. How aware are you of the following opportunities offered through the career center?

Career Coaching, CAR courses, Job Shadowing, or Career Meetups

- Not aware
- Somewhat Aware
- Aware
- Very Aware

2. How interested are you in the following opportunities offered through the Career Center?

CAR courses, Job Shadowing, Career Meetups or Career Coaching

- Not interested at all
- Slightly interested
- Moderately interested
- Very interested
- Extremely interested

3. What areas/subjects are you currently enrolled in or aspiring to enroll in?

- Arts
- Music
- Engineering
- Math
- Health
- Environmental Health
- Science
- IT
- Communications/Journalism
- English
- Global Studies
- History
- Administration

4. What areas/subjects are you interested apart from your (intended) major or in conjunction with your major?

- Arts
- Music
- Engineering
- Math
- Health
- Environmental Health
- Science
- IT
- Communications/Journalism
- English
- Global Studies
- History
- Administration

5. If your major does not have already would you be interested in pursuing a multidisciplinary study subject or class?

- Not interested at all
- Slightly interested
- Moderately interested
- Very interested

- Extremely interested

Written Responses

6. What would entice you more as a student to participate in a multidisciplinary class?
7. What do you think you would gain in participating in a multidisciplinary subject or class?
8. Please explain why you wouldn't be interested in a multidisciplinary subject or class?
9. In what ways could communications through the Career Center, Handshake, and other offices be improved?

Open-Ended Questions for Focus Groups

1. What skills have you gained through the Career Center post-covid?
2. What Career Center resources have you post covid?
3. What suggestions do you have for the Career Center to connect more with students during this pandemic?
4. What resources or opportunities do you lack pre-covid and post covid?
5. What is your (intended) major?
6. Follow up:
7. What areas are you interested in apart from your (intended) major or in conjunction with your major?
8. What would prevent you from pursuing it?
9. Do you think work-study programs and opportunities can be improved? How?

Section E: Alumni Survey

Mid-Year Survey

1. In your overall experience, which of the following skills did you feel like you received from Stony Brook University? Check all that apply.
 - Critical Thinking/Problem Solving
 - Oral/Written Communication
 - Teamwork/Collaboration
 - Digital Technology
 - Career Management/Self-Awareness
 - Leadership Skills
 - Professionalism/Work Ethic
 - Global/Intercultural Fluency
 - Other

2. Which of the following skills or traits do you feel are essential for the current workforce as a result of the COVID-19 pandemic? Check all that apply.

- Critical Thinking/Problem Solving
- Oral/Written Communication
- Teamwork/Collaboration
- Digital Technology
- Career Management/Self-Awareness
- Leadership Skills
- Professionalism/Work Ethic
- Global/Intercultural Fluency
- Other

3. Are you currently employed or self-employed?

- Yes
- No

4. Rate your agreement or disagreement with the following statements:

*“The University adequately prepared me for my career field
COVID-19 and its workplace restrictions have affected my career field and/or job
search”*

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

5. *Written response:* What resources should Stony Brook University offer to improve the rate of success in career fields and better prepare them for the workforce post-COVID?

Final Survey

1. Do you have reliable access to a digital device (laptop, desktop computer, tablet etc.) and stable internet? Select all that apply.

- No
- Yes, at home
- Yes, at work
- Yes, using Stony Brook University resources (computer labs, SINC sites, computer loan program)
- Other

2. What is your level of comfort in using digital devices?

- Extremely comfortable
 - Somewhat comfortable
 - Neither comfortable nor uncomfortable
 - Somewhat uncomfortable
 - Extremely uncomfortable
3. Rate your agreement with the following statement: The digital skills that I learned at the University have proven useful in my career during the COVID era.
- Strongly agree
 - Somewhat agree
 - Neither agree or disagree
 - Somewhat disagree
 - Strongly disagree
4. What software are you currently using in your career?
- Office software (Microsoft Suite, Apple iWork, Google Suite)
 - Email (Outlook, Gmail, Yahoo, iCloud)
 - Web conferencing (Zoom, Google Meet, Microsoft Teams, Slack, etc)
 - Coding/website development (Python, Java, Wix, Squarespace)
 - Cloud-based hosting (Google Drive, iCloud, Dropbox, etc)
 - Social media (Facebook, Twitter, Reddit, Instagram, etc)
 - I do not use any of those listed
 - Other
5. Select all of the following that may have negatively impacted your academic experience as an undergraduate
- State of the economy
 - Unfriendliness of professors
 - Political instability
 - Affordability of undergraduate housing
 - Other housing instability (foreclosure, eviction, etc)
 - Cost of tuition
 - Commuting costs (car payments, gas, etc)
 - Quarantine/isolation (pandemic)
 - Learning/work environment (online, hybrid classes, work from home, etc)
 - Workload/burnout
 - Other
6. Did you receive additional higher education such as certifications, training, or degrees to become a more competitive career candidate?
- Yes, please specify
 - No

7. *Written response:* Yes, please specify
8. How aware were you of the following career services offered to alumni?
- Career Coaching
 - Networking/Mentoring
 - Handshake (formerly Zebranet)
 - Resume/Cover Letter Writing
 - Interview Prep
 - Job Search Planning
 - LinkedIn/Building Your Brand
 - Life-Long Learning (Workshops & Lectures)
 - Alumni Job Fairs
 - Other
9. What career services, if any, did you utilize to strengthen your candidacy or further secure your career? Select all that apply.
- Career Coaching
 - Networking/Mentoring
 - Handshake (formerly Zebranet)
 - Resume/Cover Letter Writing
 - Interview Prep
 - Job Search Planning
 - LinkedIn/Building Your Brand
 - Life-Long Learning (Workshops & Lectures)
 - Alumni Job Fairs
 - Other
10. If you have utilized any of the career development services/programs currently available to alumni, did you find them helpful?
- Yes, I have found them extremely helpful
 - Yes, I have found them moderately helpful
 - Yes, but I did not find them helpful
 - No, I have not utilized any career services/programs
11. *Written response:* Which program did you utilize and how was the program helpful?
12. *Written response:* What would you change to improve your experience?
13. Select any applicable barrier to using the services
- Did not have time to attend
 - Was not aware of the services offered
 - Did not believe they would be able to assist me
 - Other

14. In your opinion, how well does your current career align with your undergraduate major?

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not well at all

15. Would you be interested in participating in a 10-15 minute virtual focus group to speak about your experiences and assist in improving our community?

- Yes
- Maybe
- No

16. Which dates would you be able to attend?

- Tuesday, April 27th, 8pm
- Thursday, April 29th, 8pm
- Saturday, May 1st, 12pm
- Tuesday, May 4th, 8pm

Open-Ended Questions for Focus Groups:

1. What does digital technology mean to you?
2. What resources should colleges offer to improve the rate of success in career fields and better prepare them for the workforce post-COVID?
3. What other career competencies should be added to the current selection?
4. Do you believe that the career competencies you gained translated well into a digitized workspace?
5. Was the career field you were interested in undergoing significant changes in the requirements prior to COVID (increase of digital skills, decrease of face-to-face interactions etc.)?
6. Is it more difficult to find jobs in your career sector now than before?
7. What other skills should new graduates have entering the COVID workforce?

Section F: Graduate Students

Mid-Year Survey

1. On a scale of 1-5: To what degree has the COVID-19 pandemic affected your confidence in gaining employment in your intended career field?
 - 1- none or very little, I still feel confident that I will gain employment in my intended career
 - 5- significantly, I don't feel confident at all that I will gain employment in my

intended career

2. Please share why you gave that rating in the previous question (open response)
3. Does your program require an Individual Development Plan (IDP) for your research?
 - Definitely yes
 - Probably yes
 - Might or might not
 - Probably no
 - Definitely no
4. [For those who selected Probably/Definitely Yes] You indicated that your program probably or definitely requires an Individual Development Plan (IDP) for your research. Please rate how useful IDPs are to your career development.
 - Extremely useful
 - Very useful
 - Moderately useful
 - Not at all useful
5. The PHD-Career Ladder Program (PCLP) is a peer-led career mentoring program for graduate students and postdocs pursuing any career pathway. Have you been involved in any PCLP activities?
 - a. Yes
 - b. No
6. [For those who selected no] You indicated that you have not been involved in PCLP activities. Are you interested in hearing more about the PCLP?
 - a. Yes
 - b. No
7. Q7: We define interdisciplinary work as opportunities in which people from different parts of science collaborate to work on a focused problem. Have you had any opportunities to pursue interdisciplinary work?
 - a. Yes
 - b. Maybe
 - c. No
8. [For those who selected yes] You indicated that you participated in interdisciplinary work. Please rate how useful those opportunities were to your career development.
 - Extremely useful
 - Very useful
 - Moderately useful
 - Not at all useful
9. Would you be interested in hearing about career development and other resources and services available through the career center?
 - a. Yes
 - b. No
10. Would you be interested in hearing about or participating in more interdisciplinary work?

End-Year Survey

Section G: COVID-19's Impact on Minority Students

Focus Group Questions

- 1:** How do you believe COVID-19 has Impacted Minority Students?
- 2:** Is there anything you wish the University did better with their protection of minority students on campus in these times?
- 3:** What did the University do well in their protection of minority students on campus?
- 4:** Would you be interested in the creation of a presidential/undergraduate student council devoted to addressing issues of inequality in SBU comprised of minority students?