Stockton University Compass Fund
Proposal Form

1. Please complete this form and email a copy as a Word document to: CompassFund@stockton.edu.
2. Compass Fund proposals must demonstrate a direct link to one or more of the six areas of focus in the University's *Strategic Plan 2025 – Choosing Our Path*
3. Proposals must provide specific budget details, identify realistic outcomes, and specify assessment measures.
4. Proposals must include endorsement from your Divisional Executive at the time of submission. Please include an email from your Divisional Executive with this application.
    - Keep in mind that Divisional Executives typically need multiple days to review your proposal and provide endorsement.
5. Particular attention will be paid to proposals which include one or more of the following:
    - o A clear demonstration of University-wide impact.
    - o Involvement of students as project leaders/mentees.
    - o Identification of co-funding opportunities in addition to anticipated Compass Fund support.
    - o Inter-departmental or inter-divisional collaboration within the project planning or implementation process.
6. All student project leaders must identify at least one faculty or staff mentor and work with this mentor to complete this application.

General Application Information						
Project Leader Name(s)	Philip Eaton					
Project Leader Email(s)	philip.eaton@stockton.edu					
Project Partner(s)	Anna Pfeiffer-Herbert <Anna.Pfeiffer-Herbert@stockton.edu> Michael Law <Michael.Law@stockton.edu> Emma Witt <Emma.Witt@stockton.edu> Barry Pemberton <Barry.Pemberton@stockton.edu> Robert Heinrich <robert.heinrich@stockton.edu>					
Title of Project	SCI-BOOST (Science-focused, Cohort-based Integrated support: Building skills, Optimizing Opportunities, Student success, and Teamwork)					
I am a:		Student	X	Faculty Member		Staff Member
Project start date: 09/01/2024			Project end date: 06/30/26			
If you are a student, who is your faculty/staff mentor?						

Proposal Category (choose <u>one</u>)					
<u>One-Time Project/Event</u>		<u>One-Year Pilot Project</u>		<u>Two-Year Pilot Project</u>	
	$5,000 or less		$5,000 or less		$5,000 or less
	More than $5,000		More than $5,000	X	More than $5,000

Primary Strategic Area of Focus (choose <u>one</u>)	
X	Inclusive Student Success
	Diversity and Inclusion
	Teaching and Learning
	Strategic Enrollment Management

	Financial Sustainability
	Campus Community, Communication, and Shared Governance

Please provide a narrative summary of your project.

- Include as many important details pertaining to the event/project planning as possible (ex: number of participants, proposed dates, etc.).

Summary of the SCI-BOOST proposal:
In recent years, Stockton University has observed a growing number of students applying to our science programs with varying levels of preparation in mathematics. Some of these extremely capable students face initial delays in joining core program courses due to where they begin their mathematics at Stockton, impacting their academic journey and potentially their enthusiasm to engage in scientific disciplines. To proactively overcome this challenge, we introduce SCI-BOOST (Science-focused, Cohort-based Integrated Support: Building Skills, Optimizing Opportunities, Student Success, and Teamwork).

SCI-BOOST is designed to forge a supportive environment for students conditionally admitted to Stockton, endeavoring to inspire these aspiring scientists to embrace their potential fully. We recognize that these students, despite having the intellectual acumen, lack a robust foundation in mathematics which can significantly delay their entry into core science courses. This can potentially reduce their confidence and stunt their academic progression. Through SCI-BOOST, our objective is to alleviate these barriers, cultivate a strong sense of community, and empower students to excel in their chosen scientific disciplines.

The aims of SCI-BOOST are to i) cohort the students in the same sections of courses as often as possible via pre-registration with the assistance of Academic Advising, and ii) meet with these students once a week to work on enhancing their proficiency in critical thinking and problem solving and building their confidence in science-related subjects. These activities combined will help to foster a sense of community and self-empowerment. We want SCI-BOOST students to believe that they can succeed in their chosen major, they just may not have had access to the right materials and instruction until this point. This is our chance to help them level the playing field.

Full narrative of the SCI-BOOST proposal:
In 2019, Stockton University became “test optional” and began admitting First-Year students under a “conditional admittance” framework. A student is conditionally admitted when they declare a major with specific mathematical requirements, but test below that standard. This assessment is based on self-submitted SAT/ACT Math scores, Math Accuplacer scores, or dual-credit/college courses taken during high school. This practice has significantly impacted students seeking to major in a program within the School of Natural Sciences and Mathematics (NAMS), as many core courses necessitate a precalculus prerequisite under the current curriculum. In Fall 2022, 56% (133) students were conditionally admitted into a NAMS major as a First-Year student. Students who have been conditionally admitted constitute on average about 40% (or 100 students) of a typical First-Year student cohort and require one or more semesters of preliminary mathematical preparation before their conditional status is removed, making them eligible for many NAMS-specific core courses.

These students often possess excellent intellectual potential but have not had the opportunity to build foundational math skills. This situation was only exacerbated by the global pandemic during their middle and/or high school education, which hindered their ability to fully master fundamental mathematical skills. As a result of this delayed start in core curriculum, students could potentially miss out on critical social networking and community building opportunities that significantly contribute to their retention at both the program and university levels. As an unintended side effect of being blocked from courses in their intended major due to a math score, students could experience reduced morale and feelings of inadequacy. Students may also hyperfocus on math ability, not realizing that science is not merely “doing math,” but instead, is an application of honed problem-solving and critical thinking skills. All these additional factors can contribute to feelings of not belonging to the NAMS and Stockton community, resulting in decreased retention rates.

To help students who start their mathematical journey at a different point than precalculus develop a sense of belonging at NAMS and Stockton and to cultivate their feelings of self-empowerment, we propose the creation of a cohort-based initiative called SCI-BOOST. SCI-BOOST stands for Science-focused, Cohort-based Integrated Support: Building Skills, Optimizing Opportunities, Student Success, and Teamwork. This initiative would be a comprehensive student-oriented cohort model, including mentoring by faculty, staff, and peers, supplemental instruction, guidance, and support for first-year students conditionally accepted into NAMS.

The primary objectives of SCI-BOOST are as follows:

Foster a Sense of Community: Create a supportive and inclusive community among NAMS students starting at a different point in their mathematics as some of their peers, providing them with a network of companions facing similar challenges and a sense of belonging within the scientific community.

Empowerment and Confidence: Boost students' self-confidence by equipping them with the skills and resources necessary to succeed in science-related courses and future career paths.

Build Math Proficiency: Enhance students' foundational math skills ensuring they are adequately prepared for their science coursework.

To achieve these objectives, SCI-BOOST would leverage weekly seminars, peer mentoring, community-building events, and a pre-registration-assisted cohort system. Weekly meetings would be structured as a 1-credit seminar aimed at fostering a sense of community and belonging among students. For this pilot, we would create two 30-student seminars, for a total of 60 students, that NAMS students who have been conditionally admitted into their major can volunteer to take. These seminars will be advertised with the help of the Admissions Office during First-Year registration events. The academic credit attached to the seminars will serve as a motivation for students to attend the meetings, as it would impact their GPA. We believe making the seminars credit-bearing will initially incentivize students to attend, and after the first 2-3 meetings we believe they will increasingly look forward to participating for their own personal growth and development.

During these seminars, students would engage in various activities designed to promote critical thinking and problem-solving skills, emphasizing that there are more important aspects to science than just mathematical ability. For instance, students could collaborate on activities such as creating action plans to tackle interesting questions such as the following sequence:

1. "How much CO_2 is emitted by an average idling car?"
2. "Approximately how much CO_2 is emitted by idling cars in Stockton's parking lots each day?"
3. "How much CO_2 is removed from the atmosphere by the Pinelands National Reserve each day?"

These activities will not only convey the idea that science encompasses more than just mathematical equations, but will also foster a sense of community, encourage friendships, and promote a sense of belonging through group discussions. These activities will be tied to the mathematics most of the students are currently learning in their math courses, and will assist students in harnessing information technology tools and resources, which are indispensable to completing a university degree.

In addition to academic inquiries, we will also explore broader, self-oriented questions, such as:

1. "What are your goals for your degree and your university experience?"
2. "What skills do you believe are essential for success?"
3. "What holds greater importance: critical thinking or mathematical skill?"

Engaging students in these discussions about the significance of their college/university experience and the realization that it extends beyond mathematics is crucial in shaping their self-image as future scientists. SCI-BOOST will strive to underscore that education at Stockton is not merely about acquiring knowledge and skills but is also about personal growth in how one thinks and acts. We acknowledge that everyone's educational journey involves challenges and setbacks, but that everyone has the grit and determination to see it to the end.

We will designate specific segments within each meeting to facilitate student interactions with peer mentors in smaller groups and to engage in journaling and self-reflection activities. Research on student recruitment and retention indicates students often find value in hearing from their peers rather than solely from faculty, as they appreciate the perspective of fellow students [1]. SCI-BOOST will employ strategies to leverage this preference and foster a supportive learning environment. Furthermore, journaling and self-reflection have been demonstrated to enhance metacognitive abilities [2], which are closely associated with improved performance in various academic courses.

In addition to all of this, some weekly meetings will include discussions of skills essential for students to succeed in university, such as time management, effective study habits, and organizational prowess. These skills will help empower students when navigating the challenges of higher education. The friendships that form and the sense of community SCI-BOOST will build will give students resilience in the face of setbacks and collaborative abilities for future group projects. Furthermore, we would ask the wellness center to come and talk to the student about nurturing their own wellness through physical and mental health practices, as well as fostering ethical conduct and cultural competence, underpin a holistic university experience, and contribute to overall well-being and success in academia and beyond.

During seminar meetings, peer mentors and faculty will circulate throughout the room, engaging with groups to discuss their answers, pose additional questions, probe for deeper introspection when appropriate, and more, all with the aim of fostering and strengthening a sense of community. The SCI-BOOST peer mentors will consist of students who have excelled in their respective programs of study and are deeply passionate about assisting their fellow students in becoming integrated into the program. We will recruit via an email and faculty nominations

campaign to find eligible junior/senior NAMS students to serve as peer mentors, with specific selections being based on the composition of the SCI-BOOST students. For instance, if SCI-BOOST is mostly students majoring in Biology, then we will try to hire more Biology and Biology-related peer mentors. Ideally, future peer mentors will be SCI-BOOST participants who have completed the program, creating a full circle of community building and enlightenment.

Another component of SCI-BOOST would consist of informal community-building events held at the start (Weeks 1-2), middle (Weeks 6-8), and end (Weeks 14-15) of each semester. These gatherings would commemorate often overlooked milestones, including:

- The achievement of admission to Stockton and the beginning of a new semester.
- Successfully navigating the challenges of the semester.
- The accomplishment of completing the semester and/or academic year.

These celebratory events will be designed to strengthen the sense of community and alleviate stress among SCI-BOOST students, making them a critical component of the SCI-BOOST program. The beginning and end of the academic year celebrations would feature catering, while the mid-year events would be a smaller in scale with snacks, desserts, music, board games, etc. These celebrations were indicated by the Experts from Pathways for Inclusive Excellence (PIE) at the University of Washington, a similar program to what we would like SCI-BOOST to become, as imperative for getting people out of their shell and getting involved in the program in an active manner.

A major aspect of SCI-BOOST will be the cohort-based experience we want to craft. We will be working with the Admissions Office and the Office of Academic Advising to help pre-register students who have been conditionally admitted into the same sections of their first semester courses. Although some students manually change out of their suggested pre-registered courses, most do not. We hope to use this common scheduling to form a cohort of students who are taking the same/similar classes and will create strong social networks as a result.

We aim to provide enhanced support by collaborating with the Office of Academic Advising and the NAMS programs to select dedicated faculty preceptors for students conditionally admitted. These preceptors, comprising enthusiastic faculty members, will be actively engaged in or associated with SCI-BOOST programming and seminars. This holistic approach seeks to establish a comprehensive network of support that encompasses precepting/advising, teaching, and fostering a sense of community.

To assist in managing the administrative responsibilities tied to this project, the compensation of a Project Manager is essential. The Project Manager role within the SCI-BOOST initiative is crucial in ensuring the smooth execution and coordination of various vital elements of the program. This individual, a current senior NAMS major or a recent graduate, will work closely with the current seminar instructor and the project lead to oversee logistics, communication, peer mentor recruitment and training, and all administrative tasks vital for the effective operation of SCI-BOOST. Collaborating closely with the Office of Academic Advising and NAMS programs, the Project Manager will work to meet the needs of the SCI-BOOST students. This role necessitates efficient coordination of activities, prompt communication, and smooth day-to-day management of the SCI-BOOST program.

With funding from the Compass Fund, we plan to launch SCI-BOOST as a 2-year pilot initiative beginning in Fall 2024, targeting first-year students who have been conditionally admitted into NAMS and volunteer to participate in the program. Following a comprehensive evaluation of the program's effectiveness during the two-year pilot phase, we will explore opportunities for external funding to sustain and potentially make SCI-BOOST mandatory for all conditionally admitted NAMS students.

This pivotal initiative endeavors to rewrite the narrative for students starting a little earlier on the road of mathematics, ensuring their journey through foundational math skills and science coursework is one of inclusivity, belonging, and unwavering support. By crafting a seamless, tightly knit cohort model complemented by peer mentorship and academic counseling, we envision transforming the educational trajectory for these aspiring scientists, leading to higher retention rates and fortified student engagement.

The future beckons with promise, where SCI-BOOST will serve as a testament to our enduring commitment to inclusive, empowering, and enriching education, setting new standards for student success and community building at Stockton University.

[1] Students' sense of belonging matters: Evidence from three studies. Teaching + Learning Lab Students Sense of Belonging Matters Evidence from Three Studies Comments. (n.d.). https://tll.mit.edu/sense-of-belonging-matters/

[2] Pena-Silva RA, Velasco-Castro JM, Matsingos C, Jaramillo-Rincon SX. Journaling as an effective tool to promote metacognition and enhance study methods in a pharmacology course, during and after the pandemic. FASEB J. 2022 May;36(Suppl 1):10.1096/fasebj.2022.36.S1.R4840. doi: 10.1096/fasebj.2022.36.S1.R4840. Epub 2022 May 13. PMCID: PMC9347567.

Strategic Impact

- How will this project clearly address the primary strategic area of focus chosen above?
- What will be the institution-wide impact of this project?

This proposal addresses an equity gap in mathematics preparedness, primarily focusing on Inclusive Student Success at Stockton University. We aim to bridge the disparity for incoming, conditionally admitted first-year students who aspire to pursue degrees in the School of Natural Sciences and Mathematics (NAMS). Currently, students who have been conditionally admitted come to the university beginning their mathematical journey before precalculus. However, precalculus is a prerequisite for many NAMS degree programs. This can result in these students beginning the core courses of their major after some of their peers from the same first-year class, which can lead to reduced retention rates by the third semester. From data received from the Office of Institutional Research, we found that in AY 2022 about 72% of conditional NAMS majors persisted into their third semester. This is below the university average of 78% in AY 2021 and is substantially below the AY 2019 average persistence of 85% (see 'Retention Rates' tab in https://stockton.edu/institutional-research/graduation.html for reference). We do not foresee the number of students being conditionally admitted reducing in the near future. As a result of the pandemic, and the persistent teaching shortage crisis hindering K-12 mathematics education [1], we believe the number of conditional admissions will only increase. Retaining these students by better integrating into and preparing them for their majors will become imperative to increasing Stockton's overall enrollment, retention rates, and the 4-year completion rate.

Our proposed solution involves the development of a cohort model, enhanced by the support of student mentors and dedicated student success counseling, to empower students who were admitted conditionally, ultimately resulting in higher rates of success. This innovative model not only addresses inclusivity but also enhances teaching and learning. It will create a sense of community and reinforce essential mathematical concepts vital to NAMS majors. Leveraging recommended practices in learning cohorts, our initiative significantly amplifies students' sense of belonging and engagement.

The proposal aligns with strategic enrollment management goals, aiming to boost student retention rates and reduce the time needed for conditionally admitted NAMS students to complete their degrees.

This project carries a dual impact on the institution. Firstly, it could substantially improve the retention of students within NAMS at Stockton, aligning with our commitment to Inclusive Student Success. Secondly, it establishes a fair and equitable approach to admitting students who may need some extra time on the road to precalculus readiness without leaving them to navigate the preparatory courses on their own, thereby ensuring ethical and structured support for their academic journey. If the proposed cohort model demonstrates success in these areas, it can be adapted and scaled to benefit other schools and programs within Stockton University.

[1] Grabenstein, H. (2022, November 21). *"When districts can't find teachers, students suffer." Here's why teacher shortages are disproportionately hurting low-income schools.* PBS. https://www.pbs.org/newshour/education/when-districts-cant-find-teachers-students-suffer-heres-why-teacher-shortages-are-disproportionately-hurting-low-income-schools

Assessment Plan

- How will you know if your project is a success?
- What are your anticipated outcomes and specific measurements for success?
- What is your project's "finish line?"

The success of the SCI-BOOST project will be closely monitored through a comprehensive evaluation framework. The primary objectives, our “finish lines,” are to improve the retention rates and academic performance of conditionally admitted NAMS students, enhance their overall engagement, and facilitate their transition from conditional admission to full academic standing within their chosen program, thereby fostering a stronger sense of community and support for all participants. Our monitoring efforts will involve:

Robust Tracking System: We will establish a robust tracking system to continuously monitor students' progress and swiftly identify areas for improvement, allowing for timely interventions to ensure their continued academic success.

Quantitative Success Metrics: The project's success will be primarily measured through quantitative outcomes. Success will be evident through an increase in the retention rates of conditionally admitted students within NAMS majors as they progress to a math-ready status. A secondary measure will be the retention rates of students who, after participating in the program, determine that NAMS is not the best fit for their career goals, yet remain at Stockton University, buoyed by a sense of belonging and inclusion nurtured by the model. These measures will be assessed at the beginning of the cohort's third semester and compared to data from AY 2022-23 and AY 2023-24 when this cohort intervention did not take place.

Climate Surveys: We will conduct Climate Surveys to gauge student perceptions of belonging and how well their program, NAMS, and Stockton University align with their long-term objectives. As a part of this surveying, we will be submitting for IRB approval to collect this data for future research presentations/publication on the effectiveness of this pilot program. Success in creating healthy and effective cohorts built on community and mutual support is expected to result in an improved institutional climate. Research-based surveys will be given to the SCI-BOOST students at the beginning and end of each semester and shorter versions will be given to the general NAMS student population. This allows for an assessment of the growth of SCI-BOOST students in their feelings of belonging and community and for a comparison to student feelings outside of SCI-BOOST.

Student Feedback: We will actively seek feedback from students through short response surveys and end-of-semester focus group discussions. This feedback will inform ongoing improvements to the program and ensure its alignment with student needs and expectations.

Retention and Conversion Rates: The program's effectiveness will also be evaluated by analyzing third-semester retention in NAMS majors and conversion rates out of “conditional” status for participating students compared to those who do not participate. These metrics will serve as key indicators of success.

IRB Approval: It should be noted that IRB approval will be secured for all data collected in this process to allow for future research presentations/publications on this pilot program.

By implementing these rigorous monitoring methods, we aim to continually assess the impact and effectiveness of the SCI-BOOST project, making data-driven adjustments as needed to maximize its benefits and support Inclusive Student Success at Stockton University.

Compass Funding Budget Questions		
In which department or academic school will your budget for this project reside?	**School of Natural Sciences and Mathematics (NAMS)**	
Who will be the Budget Unit Manager (BUM)?	**Dr. Amanda Norvell**	
Who will be the budget processor?	**Marie Jelinski**	
Will you need Compass Funds for <u>immediate</u> use to begin your project?	Yes, date needed: _____	_X_ No

Budget Summary – Compass Fund Requested Funding Only

This portion should not include items supported by another budget/source. Items split between the Compass Fund and another source should be included in both this section and the "Budget Summary – Additional Funding from Other Sources Only" section below.

	Item	FY2025 July 1, 2024 – June 30, 2025	FY2026 July 1, 2025 – June 30, 2026	FY2027 July 1, 2026 – June 30, 2027	Notes/Comments (stipends, supplies, hospitality, etc.)
1.	Student Mentors	$10000	$10000		6 student mentors at $18/hr for approx. 3 hours/week for 30 weeks.
2.	Social Events	$3500	$3500		community building celebrations and events. Approximately 63 participants, at $18/person for a big celebration and $5/ person for a small gathering. 2 big celebrations a year and 4 small gatherings a year. Total: About $3500
3.	Supplies	$400	$400		Supplies (e.g. consumables for experiments in the seminars)
4.	Research		$2000		Research presentation and/or publication fees
5.	Project Manager	$4000	$4000		Compensation of a Project Manager position (current, exemplary senior NAMS student, or a recent graduate) for handling the logistics, hiring, training, and overall administrative support for the program. Calculated assuming an average of 4 hrs/week for 40 weeks at $25/hr.
6.					
7.					
8.					
9.					
10.					
	Totals	$17900	$19900		

Please note: a proposal can only receive support from the Compass Fund for two fiscal years. Compass Funding cannot be used to fund full-time/part-time salaried positions, office computer equipment, summer institutes, or alumni travel expenses. Compass Funding cannot be transferred to other budgets.

Additional Funding from Other Sources

Are you receiving any other University funding for this project?	___ Yes	_X_ No
If so, from where?		
1)		

2)
3)
4)
5)
Please provide a detailed breakdown of matching funds below and include an email of support from each BUM at the time of submission.

Budget Summary – Additional Funding from Other Sources Only
This portion should only include items that are being supported by another budget. Items split between the Compass Fund and another source should be included in both this section and the "Budget Summary – Compass Fund Requested Funding Only" section above.

	Item	FY2023 July 1, 2022 – June 30, 2023	FY2024 July 1, 2023 – June 30, 2024	FY2025 July 1, 2024 – June 30, 2025	Source	Notes/Comments
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
Totals						

How will this project sustain itself after Compass Funding concludes (if you are seeking funding beyond a one-time project or event)?

After establishing a successful cohort model, we intend to pursue funding opportunities such as the National Science Foundation Scholarships in Science, Technology, Engineering, and Mathematics Program (S-STEM) or Improving Undergraduate STEM Education (IUSE), or another grant that aligns more closely with our specific needs. The choice of the grant will be determined as we approach the conclusion of the 2-year pilot of the program. In particular, the successful pilot of SCI-BOOST is essential to a future 5-year S-STEM proposal.

In addition to this, we will try to find local and nonlocal businesses and industries we can partner with. These partnerships will give clear career pathways to SCI-BOOST students and will bring in funding to ensure the continued success of the program.

Additional Support Questions

Will your project require support from Information Technology Services?	___ Yes	_X_ No
If yes, please provide details:		
Will your project require support from Plant/Facilities & Operations?	___ Yes	_X_ No
If yes, please provide details:		
Will your project require support from any other unit or division?	_X_ Yes	___ No

If yes, please provide details:

- Office of Institutional Research in the form of data about students who would have been eligible for SCI-BOOST before the creation of this initiative.
- Student Affairs in the form of a designated contact for each of their offices (e.g., Career Center, Residential Life, Counseling), and a designated student success coach for the cohort-mentoring students will be requested, if possible.
- Admissions and Academic Advising is needed to help identify students who are eligible for SCI-BOOST, and in pre-registering these students onto the same sections of the same courses whenever possible.

Divisional Executive Approval/Support

Have you discussed and received endorsement for your Compass Fund proposal from your Divisional Executive? ***An email of support from your Divisional Executive is required at the time of submission.***	