



STEM Collaborative UPDATES

Newsletter Welcome

Hello all and happy holiday season. This month's newsletter is going to cover a more comprehensive look at the things going on within the Foundational STEM Collaborative and the STEM Learning Center. With these updates, some may be beneficial to share with your advisers and students to help them better understand our offerings! If you have any announcements or topics you would like covered in an upcoming newsletter, please let us know at STEMCollab@mail.wvu.edu!

- Foundational STEM Collaborative Leadership

Expanded Offerings in Physics

Students have reported struggling in some of their physics courses at the beginning of this semester. Through discussions with leadership in the Department of Physics and Astronomy, we have welcomed a few new learning consultants to the STEM Learning Center to help expand our offerings! These offerings will include Phys 101, Phys 102, Phys 111, and Phys 112. This brings our total number of course offerings up to ten, with the addition of these four new courses to the existing Math 124, Math 150, Chem 110, Chem 111, Chem 115, and Chem 116 already in place.

We are looking forward as we continue to look at the expansion of our offerings! As always, with the expansion of our offerings, we cannot thank everyone enough for their support of the STEM Learning Center and being great partners as we continue along the path toward improving student retention and outcomes within the foundational STEM coursework.

FirstGen STEM Cookies and Cocoa Event

It is well known that FirstGeneration students (neither parents, nor guardians, have a completed 4-year degree from a US Institution) can often struggle in the college setting because their home support system does not have a first-hand understanding of what a 4-year college can entail. On Thursday, Nov. 7th an event was held in the STEM Learning Center for WVU's FirstGen Celebration Week in collaboration with the departments of Biology, Chemistry, Mathematics and Data Science, and Physics within the Eberly College taking part in the Foundational STEM Collaborative.

At the event we had forty students stop by, hang out, and enjoy some refreshments; three of which also made sure to meet with a learning consultant for some targeted help in their coursework as well. While supporting all students is our central mission, making sure to spread awareness to populations that are more likely to be underserved is critical to their success!

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Special Points of Interest

- Adding Physics 101-112 to the list of learning consultation possibilities
- FirstGen Student Event to help them understand the resources at their disposal
- STEM Collaborative Student Advisory Group update

Important Dates Coming Up:

11/20 — Coffee & Conversations with Faculty (3:30pm)

11/22— Last day to Withdraw from classes/university

11/25-11/29 — Student Fall Recess

12/6 — FSC Faculty Reverse Journal Club

12/13— Student Finals Preparation Day

12/16-12/20—Finals Week

Learning Development Theory: Assisting FirstGen Students

This year's FirstGeneration (FirstGen) Celebration Week, led by FirstGen Initiatives within the REACH Student Success Center, took place November 4th-8th. A study found that by 2015 FirstGen students, a shrinking student population as more individuals receive their bachelor's degrees, still made up roughly 1/3 of students enrolled in post-secondary institutions (Cataldi et al., 2018). These students are more likely to struggle due to not having the family support due to a lack of cultural and social capital imparted by having generational knowledge of the higher education sphere (Payne et al., 2023). It has been reported that one of the factors that influences "help-seeking behaviors" of FirstGen students includes looking for cultural compatibility (in-group bias). It has been noted that when the cultural backgrounds do not align with the student, they are less likely to seek help (Payne et al., 2023). This mixed with a self-imposed expectation of self-reliance, and the "figuring it out for myself" mentality, can hinder these students from reaching out for help, even when they are aware of resources at their disposal (Payne et al., 2023). One commonly reported reason amongst the students was experiencing negative interactions first-hand or seeing others experience negative interactions with professors (Payne et al., 2023). While it may not have been every professor, these views of particular professors can easily attribute a bad light for professors and other assistance professionals across the board.

When it comes to research regarding the FirstGeneration population, the primary focus is on developing strong support systems for these students to optimize their success. In one review of the literature, they broke down the tools of support for FirstGen students, primarily FirstGen students of color (FGSOC) into academic supports, transitional adjustment supports, and mental health supports (Schuyler et al., 2021). Focusing specifically on the academic supports, it was discussed that having resources that can assist the students where there is a lack of parental knowledge leads to higher retention and performance (Schuyler et al., 2021). The REACH Student Success Office on WVU's campus helps with these topics, which include study skills, time management, and resource utilization. Beyond the general skill development, it was also mentioned that using varied pedagogical approaches targeted at multiculturalism and community building, add to the positive experiences these students can have (Schuyler et al., 2021). Even though the want for cultural compatibility, as discussed above, is a factor in the search for help, multicultural assistance in the form of peer-support and collaborative learning groups helps breakdown some of the barriers to students seeking help (Schuyler et al., 2021).

Furthermore, Schelbe et al. (2019), noted that FirstGen students overcome great odds to even start college, and there is something to be said for this resilience. As part of the resilience, the authors mention that a lack of engagement could also be attributed to outside commitments. Some of these students are working to either pay for college or send money back home to assist their family (Schelbe et al., 2019). In this study they focus on their "GenOne" program designed to assist these FirstGen students in social and resource connection (Schelbe et al., 2019). The areas they focused on were in support, expectations, preparation, and resources. The support area worked with faculty/staff and peer-to-peer support to engage these students and provide a more targeted assistance. With these supports in place, expectations laid the foundation for what truly is expected of these students in their studies and time on campus. Preparation focused on developing a plan for executing their studies, based on what the students learned from their support and expectations conversations. Within the preparation it was noted that having mandatory study or tutoring hours assisted them in their adjustment to the high academic expectations and rigor. From the connections made in the first three areas, students reported that it felt easier to seek out resource programs (Schelbe et al., 2019).

The unifying theme between all of these research articles focuses on developing a community that helps these FirstGen students find a place of belonging and to see that they can culturally fit into the post-secondary sphere. Meeting these students where they are is important for their growth. As we continue to assist all students, creating an open and welcoming environment so all feel culturally connected to the institution and us, the support systems, is going to propel our university forward to continually follow our land grant mission.

While resources like FirstGen Initiatives are helpful in getting connected with this population of students, a more collaborative effort across units and disciplines is needed to ensure the success of these students. Further developing a more comprehensive and inclusive environment within the classroom and support centers like the STEM Learning Center, can help these students see their cultural fit here at WVU where they feel they can have their voices heard. One way to help them see their cultural fit could be to self-identify if you were a FirstGen student. This can be done through Applaud following the directions at the following website, (<https://wvusharedservices.wvu.edu/s/article/101-An-Introduction-to-FirstGeneration>), or through door signs, produced by FirstGeneration Initiatives, that can be posted on your office door!

To learn more about ways to assist FirstGen students, Michelle Paden (michelle.paden@mail.wvu.edu) heads up FirstGeneration Initiatives on campus.

Sources:

- Cataldi, E., Bennett, C., & Chen, X. (2018). First-Generation Students: College Access, Persistence, and Postbachelor's Outcomes. *Statistics in Brief, NCES 2018-421*, 1–31.
- Payne, T., Muenks, K., & Aguayo, E. (2023). "Just Because I am First Gen Doesn't Mean I'm Not Asking For Help": A Thematic Analysis of First-Generation College Students' Academic Help-Seeking Behaviors. *Journal of Diversity in Higher Education*, 16(6), 792–803.
- Schelbe, L., Swanbrow Becker, M., Spinelli, C., & McCray, D. (2019). First Generation College Students' Perceptions of an Academic Retention Program. *Journal of Scholarship of Teaching and Learning*, 19(5), 61–76.
- Schuyler, S., Childs, J., & Poynton, T. (2021). Promoting Student Success for First-Generation Students of Color: The Importance of Academic, Transitional Adjustment, and Mental Health Supports. *Journal of College Access*, 6(1), 12–25.

Learning Consultant Spotlights

Each month we would like to share some Learning Consultant Spotlights so you all may get to know the students helping lead the consultations with those utilizing the STEM Learning Center.



Nick Elmore (Senior): Major – Chemistry

Nick helps consult students that need assistance in Chem 110, Chem 111, Chem 115, and Chem 116. Nick will be graduating this December and is looking to attend WVU's School of Medicine to pursue a career in surgical oncology. When asked why he wanted to become a learning consultant, Nick stated, "When I was taking the courses that I tutor, I remember being confused on certain topics and it always felt great when I had finally figured out the topic or concept that I struggled with. I wanted to become a tutor because I want to be able to help other students do well in classes that they feel lost in and help them understand that they can do well."



Teagan Werner (Sophomore): Major — Psychology

Teagan helps as a Learning Assistant in class for Math 150 and consults students that need assistance in Math 124 and Math 150 within the STEM Learning Center. Teagan plans to attend graduate school to pursue a Ph.D. in Psychology. Teagan also had this to say regarding why she wanted to become a learning consultant, "The main reason why I wanted to become a Learning Consultant through the STEM Learning was due to my compassion for helping others. I feel like a strong education can go a long way, and if you have something you can give to someone whether it be knowledge or time, give it whenever possible."



Shannon Uphold with the WVU REACH Student Success Office presents a STEM focused Workshop on Note-taking and Study Skills

STEM Collaborative Student Advisory Group

The Foundational STEM Collaborative now has a student voice. Eighteen students from various disciplines, who are either part of student government or the First2 Network, have joined the Collaborative as members of the inaugural Student Advisory Group. This group meets regularly throughout the academic year to provide valuable insights and represent the student perspective on the initiatives taking place within the Foundational STEM Collaborative. They are advising the FSC on student success efforts, course policies, and ways to improve the overall well-being of students on campus.

Would you like to Reserve our Space in the Evenings?

In the evenings, our space is free to reserve if you would like to have a study session, or other sessions, with your students! If you would like to reserve the space please either email Nick Haas-Brown (Nicholas.haas@mail.wvu.edu) or the STEM Learning Center vanity account (STEMLC@mail.wvu.edu) and we can work out the availability and get you signed up for utilizing the space! If there are any special requests, such as needing a projector, let us know and we can have everything prepared for your arrival!