Each year, hundreds of seventh-grade girls congregate on the Shippensburg University campus for a one-day conference intended to empower them to pursue STEM subjects. The Cumberland County ESTEEM (Exploring Science, Technology, Engineering, Earth Science, and Mathematics) conference welcomes area schools, including Gettysburg, Chambersburg, Lamberton Wilson, Shippensburg and, next year, Waynesboro.

“We’re trying to go up the Interstate 81 corridor,” said Deborah Gochenaur, assistant professor of mathematics and ESTEEM coordinator.

Throughout the all-day event, students are exposed to workshops involving STEM-related fields. To make the process most efficient, students are randomly divided into groups that rotate through the workshops during the day.

Previous workshops focused on pre-med, computational psychology, mathematical probability, and more. This past spring, twenty-one workshops were offered to attendees. Although there are so many who attend, the conference works to keep workshop group sizes at twenty people or less.

Because so many students attend, it is rare for the girls to find other students they know in their group. Gochenaur said this is a positive aspect of the conference, because it allows the students to get to know people at other schools with similar interests.

“The girls each get some kind of lab,” she said.

Gochenaur got the idea for the conference after attending a similar event at Pennsylvania State University’s York campus.

“The Penn State York location gave us all their documents, all their everything,” Gochenaur said.

Gochenaur used to do most of the conference planning by herself, but has brought additional volunteers on board because of how much the program has grown.

More than 100 volunteers assisted last year, including Dr. Carol Wellington, director of the School of Engineering.

“I cannot understate the importance of the STEM women involved in ESTEEM and how valuable their expertise is,” Gochenaur said. “We want those girls who are coming to have female role models.”
Message from the Dean

Community

This issue of the College of Arts and Sciences newsletter celebrates connections made within and among communities.

Let me first introduce myself, as I was new to the dean’s office in the position of interim associate dean for fall 2018. I am appreciative of the chance to work for the College of Arts and Sciences as the interim dean during spring 2019. I began my career at Shippensburg University as a faculty member in the Biology Department, teaching Principles of Biology: Cell Structure and Function, Genetics, and Developmental Biology. As a biologist, I must point out that even our cells exist in a community of sorts, with cell-to-cell communication that is essential to life.

At Shippensburg University, we recognize the critical role of community in shaping the student experience, and we also know how much students have to offer to the campus and broader community.

The new First-Year Experience course, UNIV101, provides students with a learning community immediately upon their arrival to campus to facilitate connections with other first-year students, peer mentors, and dedicated faculty. There is additional depth associated with these learning communities through pairing of a UNIV101 course with either Academic Writing (ENG114) or Introduction to Human Communication (HCS100). In addition to building in multiple levels of support for new students, we want to start students off at Shippensburg University seeing the value of helping each other learn.

Shippensburg students give back to the broader community through service-learning projects in classes, through outreach to local schools, through meaningful research, and through careers that serve the needs of Pennsylvania. The ESTEEM team of faculty, students, and alumni highlight the excitement of STEM education for seventh-grade girls.

The Shippensburg University Foundation support of undergraduate research gives students a glimpse of the impact they can make in their fields of study. The interdisciplinary Center for Land Use and Sustainability links student and faculty research directly to solving complex problems in local communities, and the new School of Engineering will provide not only opportunities for students but graduates ready to fulfill the need in Pennsylvania for more engineers.

Our current students in the College of Arts and Sciences are very fortunate to have wonderful examples of alumni leadership, with lives and careers that reflect the value we place on community. I hope you enjoy reading the stories that show our community spirit, and we look forward to continuing to nurture the relationships that allow Shippensburg to serve Pennsylvania and beyond.

Sherri Bergsten, PhD
Interim Dean, College of Arts and Sciences
The Minds@Work Celebration of Student Research Conference is held annually in the Ceddia Union Building in April—a day dedicated to showcasing, celebrating, and sharing Shippensburg University students’ academic excellence from all disciplines. All students from honors freshman to advanced graduate students are welcome to present their research. Students showcased their research through poster and oral presentations, performances, and panel discussions.

The skills acquired during the research process serve students well intellectually and professionally as they pursue graduate school or work in their chosen industry or profession. For the faculty, the mentoring process offers a wonderful opportunity to share their passion, impart their wisdom, and watch the transition from student to scholar.

At other institutions, this type of hands-on learning occurs most often at the graduate level. What sets Shippensburg University apart is that this activity is occurring at the undergraduate level, giving students tremendous advantage over the competition. This is the margin of excellence that brings Shippensburg University students to the forefront of academic and professional achievement and success.

Without private sector support, the CAS cannot have that extra margin that will allow it to continue to improve and serve the region through its academic programs in its seventeen different academic departments. Much of our excellence has come from the support of alumni, parents of students, friends of the university, businesses, and foundations. A special thank you is extended to the donors who have established Joint Undergraduate Student/Faculty Research endowments that will fund, in perpetuity, this valuable Ship student experience. If you are interested in supporting the Joint Undergraduate Student/Faculty Research Program or would like to explore establishing an endowment to support other needs within the College of Arts and Sciences, please contact Cindy Yeiser at (717) 477-1377 or at clyeis@sufoundation.org.

“It’s an exciting time to be at Ship,” said Barbara Cross, retired Cumberland County commissioner. That passion is why she decided to come back when invited to join the advisory board two years ago. “I feel that Ship is at a great place right now, but I’m also looking forward to changes.”

In 1975 after obtaining her undergraduate degree in theatre from Chatham College (now Chatham University), Cross was commissioned in the United States Marine Corps. She served for twenty-five years. Afterward, she attended Shippensburg University for graduate school. “I came to Ship for an opportunity to get my master’s degree in a field that I thought was interesting and challenging,” Cross said. That program was Organizational Development and Leadership (ODL). As a member of the Class of 2004, Cross was one of the first to graduate with a master’s degree in the new ODL program.

The program is designed for students interested in pursuing leadership positions in various careers. And with the objective of enhancing students’ understanding of how organizations operate and change over time, it was the perfect fit for Cross.

“I think you immediately think that the military has a command of leadership. But in each organization and business you go to, you will find leaders. You’ll find them in the classroom and in a soup kitchen. They are universal skills that are needed to organize people to then support that greater good,” she said. “Plus no one has a monopoly on leadership, it’s universal.”

After completing the program, Cross became Cumberland County commissioner. Now retired, she looks back on her experience at Ship and attributes her success to the leadership skills she learned while here. “The chair of the program and the professors were key in what I feel was my success,” she said.
Changing the First-Year Student’s Experience

The Success of the UNIV101 Course

Shippensburg’s First-Year Experience course, implemented as a requirement for fall 2018 freshmen, has benefitted all of those involved in its execution. “I’m happy to have the opportunity to teach the course,” said Dr. Allen Dieterich-Ward, associate professor of history. “I’m getting a lot out of it.”

When Dieterich-Ward attended the College of Wooster where he earned his bachelor’s degree, he took a similar course to UNIV101. “I enjoy working with incoming students, helping them figure out what they want to do with their lives, and giving them the same key experience I had as a freshman,” he said, having already seen the course’s benefit.

One of his students, Madison Troy, said that it has helped her get to know campus and some of the university’s programs, as she is required to volunteer and attend campus events based on the course theme of happiness. The course focuses on the three P’s of happiness: pleasure, purpose, and pride. Through events and research, Dieterich-Ward hopes his students will be joyful as they settle into their place at Shippensburg.

Dr. Robert Shaffer, a history and UNIV101 professor, is focusing his class around diversity as well as college habits, such as study skills and how to read a textbook. He is doing this by tying his own passion for history into his class through in-depth reading analysis.

“I was excited to be involved with the new program,” said Shaffer’s peer anchor, Racheal Marconi, an English secondary education major. She said she’s benefitted from the course as a peer anchor because she’s getting classroom experience that she can then use in her career. As far as her role in the program, Marconi said, “The peer anchor position is dependent on how each professor wants to utilize you.”

Alex Spease, an entrepreneurship and marketing dual major and peer anchor for another history professor, is responsible for teaching first-year students the skill-based side of her professor’s UNIV101 course, including goal setting, time management, and scheduling tips. She also holds office hours each week for students, as well as grades students’ planner sheets.

“I would have liked to have been enrolled in this course my freshman year,” Spease said. “I think it would have been nice to have an upperclassmen friend who had experience at SU to go to with problems, since all my freshmen friends were going through the same things as me at the time.”

As a peer anchor, her goal is to serve as a mentor to the students in her class for years to come. “I want to be their resource when they are juniors and seniors and have questions about career paths and graduation,” Spease said.

Because of the peer anchors, who bridge the gap between upperclassmen and freshman while connecting them to life outside of the classroom, first-year students are learning all the essential skills when it comes to managing life at a university.

Making Connections Through STEM

Alumna Shares Science Excitement with the Next Generation

Helping people has been part of Kerrianne Fry’s DNA since her days as a student at Shippensburg University.

Fry graduated in 2013 with a biology major and health science emphasis, as well as a psychology minor. During her time at Ship, Fry became interested in genetics after taking a biology class on the subject.

She learned about different conditions and how they can be transmitted genetically. She quickly discovered her love for genetics and the ability to share her knowledge with others.

“I realized that my passion was teaching people who really cared about (it).”

Today, she works at Geisinger Medical Center as a genetics counselor. She said she works in the pediatric realm, where she explains to families the intricacies of genetics and how they affect certain diagnoses. In the case of unknown conditions, she makes it a goal to uncover a family’s genetic background in order to explain medical conditions.

Fry said her favorite part of her job is normalizing test results for families who may not typically understand how certain conditions can impact their personal care.

Looking back, she said one of her favorite things about attending Ship was the smaller class and lab sizes. Fry said she was
School of Engineering Opens Doors at SU
Engineering Program Addresses Industry Need in Pennsylvania

Just a few years after the university launched its first engineering program, the department has grown and evolved so much that it announced its School of Engineering this past fall.

The school, which exists within the College of Arts and Sciences, was created in response to Pennsylvania’s need for engineers. The school also includes computer science and is led by Dr. Carol Wellington, the former chair of the now-merged Computer Science Department.

“There is value in staying together,” Wellington said of the engineering and computer science programs’ merging.

Engineering majors will eventually hold lab classes in Ship’s former steam plant, located off of the Prince Street entrance to campus. The steam plant will be remodeled to meet the needs of the school. Since some mechanical engineering labs involve projects with cement and steam, Wellington said it makes sense for the university to be “returning to its roots” with the plant.

The programs are now under one school, but each program will be separately monitored for national accreditation.

Since the inception of Ship’s computer engineering program in 2011, past and present administrators, as well as Wellington, have made great strides to make SU’s engineering programs competitive with other schools in the region. That effort included reaching out to other Pennsylvania schools to discuss new ideas and the possibility of running joint programs.

Wellington reported that enrollment rates for the school’s freshmen are up by 50 percent, while incoming freshmen applications to join the school during the 2019-20 school year are up by 100 percent. With the establishment of the school, she hopes to bring more hands-on experience into the classroom, as well as a wider variety of partnerships with organizations where students can intern. In the past, one student interned at Ford Labs while others have worked with NASA on a water sensor project at Wallops Island in Virginia. High-profile internships such as these are what the School of Engineering needs to become connected in the greater engineering community.

Eventually, Wellington hopes to see the school expand into its own college. She is thankful for the support the school has received so far. “The [SU] administration is very supportive of listening to the program’s needs.”

challenged to learn more and foster closer relationships with faculty.

As a student, she was involved with the Tri-Beta National Honor Society and Adventure Club.

Her time at Ship has not ended completely. She regularly assists with Cumberland Valley Exploring Science, Technology, Engineering, Earth Science, and Mathematics (ESTEEM), a one-day conference on campus for middle and high school girls interested in STEM fields. She works with Ship professors to teach students about genetics and has received a lot of enthusiasm from the girls who attend.

“I think it’s awesome. Growing up, I always knew I wanted to go into something with science,” Fry said. “I’ve really enjoyed that interaction. I learn something new every year.”

Local seventh-grade girls participate in Cumberland Valley Exploring Science, Technology, Earth Science, and Mathematics (CVESTEEM), an event for which Kerrianne Fry regularly volunteers.
Connecting the University to the Community
Expanding the Outreach of Sustainable Practices

The Center for Land Use and Sustainability is the interface between the community and university. Promoting interdisciplinary research, supporting sustainable solutions, and providing professional development, the center relies on the expertise of its affiliated scientists and student fellows to accomplish these goals.

While many leaders of the program are geography/earth science professors, CLUS has expanded their competence into other departments such as history, social work, finance, and political science. “Getting outside departments involved allows us to apply their expertise in their field of study to sustainability, because it affects us all,” said Dr. Sean Cornell, associate professor of geography/earth science and an affiliated scientist at the center.

According to Cornell, there are three E’s to sustainability that affect everyone: environment, economics, and ethics. “I always add education as the fourth E, and I think that’s what CLUS is all about,” said Cornell, who requires each of his general education classes to participate in service learning. “I try to cultivate the students who will provide sustainable services in their careers.”

Those undergraduate and graduate students who have already begun their career with CLUS are referred to as fellows. Together, they work on grant-funded research projects. “We have many projects going on, mostly with nonprofit organizations working on conservation or community economic development” said Dr. Claire Jantz, CLUS director, who oversees fellows’ work.

This semester, CLUS began a two-and-a-half-year project with the National Park Service Appalachian National Scenic Trail through the Chesapeake Watershed, providing an assessment of current ecological conditions and trends. This data will then be used to highlight existing and potential threats. In addition to the new project, CLUS students and faculty members are working with the Conodoguinet Creek Watershed Association and the Delaware River Basin.

“CLUS is a great avenue for both faculty and students to engage in scholarship. It is also gives faculty the opportunity to conduct research,” said Russel Hedburg, an affiliate scientist and new sustainability coordinator.

Through the research of faculty and students, CLUS is able to bring analysis skills and GIS knowledge to the community. “We have to take steps of stewardship together to reach the goal of sustainability,” Cornell said, “because sustainability is the key component we have control over.”

Continuing the Practice of Sustainability
From SU Farm to Plant It Planet

After learning about sustainability his junior year, Terrence Topping-Brown ’13 began immersing himself in the SU Farm and a related research project.

“I had no experience, and I had no expectations,” said Topping-Brown, who began working at the SU Farm in the fall of 2012. It was through this work that he realized Mother Nature’s influence on bringing people together, despite their different backgrounds. “I remember making one of the first pamphlets to share the opportunities with the rest of the student body and interacting with a different group of people than I was accustomed to.”

Later, the biology major began his research alongside Dr. Heather Sahli, associate biology professor, who worked out Topping-Brown’s research proposal into a practical project regarding microalgae species as a potential biodiesel feedstock.

“It went a long way—Dr. Sahli’s energy, not feeling pressured about results, and learning that science is a journey of exploration” Topping-Brown said. “A sentiment that both of my early mentors echoed was that they both believed in me. While my ideas could take me to the stars, it’s the day-to-day process that would help me advance in the world.”

Today, he is the coordinator of Plant It Planet, a growing agriculture cooperative in its second year of operation. During the summer, Topping-Brown travels to local farms and gardens doing a share of work in exchange for produce later in the season.

Topping-Brown enjoys his career because it’s rewarding. “In my junior year at Ship, I made up in my mind that I didn’t want to graduate to get a job in order to make money and pay someone else to get the things I needed to sustain myself,” Topping Brown said. “I have been fortunate to be in positions where I have been able to apply the knowledge I learned while at Shippensburg.”
Faculty Focus

Dr. Deborah Gochenaur, Assistant Professor of Mathematics

Nineteen-year-old Debbie Gochenaur had never experienced this kind of setback.

Gochenaur—an A student up until that point—was now a college dropout who had had a 2.0 GPA and completed only 30 credits in her collegiate career.

No longer attending college, Gochenaur had to pick up the pieces and move on with her life. She worked seven different jobs the year she married her husband, Rich, who she had met through campus service groups while she was still in school.

Several years after having her two children, Gochenaur began to question the path she had chosen. She started taking classes at a local community college not long afterward.

“I was always exhausted, always running, always questioning my motives, wondering if I was spending enough time with my children and husband,” Gochenaur said in “College Dropout to College Professor,” an article she wrote for the Journal of Humanistic Mathematics.

She went on to receive her bachelor’s, master’s, and doctoral degrees. In that time, her children, who were then six and eight years old, grew into young adults attending high school. She earned her doctorate in mathematics education the same year her daughter earned a bachelor’s degree in mathematics.

Gochenaur is now an assistant mathematics professor at Shippensburg University, but she has not forgotten the many roadblocks she experienced to get here.

She teaches students who take her classes to fulfill general education requirements. After noticing the struggles that some students had in passing her classes, Gochenaur created a study action plan.

“It’s just a way for me to get a feel for what they’re bringing to the course,” she said. The action plan is voluntary and requires participants to put in at least nine hours of studying a week. It is a challenge for students who work or participate in extracurricular activities.

Dr. Debbie Gochenaur

The key, however, is making sure to talk one-on-one with struggling students, Gochenaur said. While speaking with students, she asks about their study habits and daily schedules.

“[But] they do what they need to if they want to pass the class,” she said. “These students need someone to help them, and I’m willing to help them.”

Gochenaur recommends that students spend at least one hour a week in tutoring, in addition to studying individually. Through research, she discovered that about three-fourths of students that use the action plan get a “C” or better in her classes.

She has shared this method with the rest of SU’s Mathematics Department and said several professors at other universities use the plan.

Gochenaur said her past is a big influence in the lengths she will go to help her students. “Not everybody’s path through college is straight.”

While she is long from her days of being a college dropout, she has carried a new outlook on life ever since. “We just have to allow students to find their dream, and it’s my job to help them get there. It does matter how students view us—we need to be approachable and caring, as well as consistent and knowledgeable.”

“Not everybodY’s path through college is straight.”
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