



HAVE YOU THOUGHT ABOUT STEM?

Science, Technology Engineering and Math (STEM) has recently become a global focus as the supply of students graduating with degrees in these concentrations is not high enough to meet job demand.

Over the past few years, Grand Canyon University has embraced the STEM initiative and taken a number of steps to ensure that the University is doing its part to feed the pipeline with industry-ready, young professionals.

Getting students to think about careers in STEM starts young. In GCU's Strategic Educational Alliances department, young can mean as early as 3rd grade!

As the department responsible for K-12 educator outreach and professional development, SEA hosts a wide range of STEM activities. Some recent examples include a 3D printing workshop and grant opportunity for teachers, a computer science community meetup and various math-focused workshops and seminars.

In its mission to drive innovation and supply tomorrow's workforce through STEM education, SEA is proud to announce several additional upcoming STEM-focused events

- **3D Printer Workshop** grant winners are invited back to the GCU campus on March 4, 2017, to showcase their STEM talents. Grant winners will share what they have accomplished throughout the year and describe lessons they have learned, where inspiration struck and project details.
- **GCU's Think Big Summer Math Institutes, Version 1.0 on June 5-8, 2017 and Version 2.0 on June 12-15, 2017**, are SEA's exciting professional development opportunities for high school math teachers. The week-long institutes teach you how to conceptualize ideas, develop knowledge and learn professional development strategies.
- **STEM Summer Camps**, available for various dates throughout summer 2017*, promote STEM learning through project presentations and fun, hands-on activities for students. There are camps for high school students, middle school students and students in grades 3-5.
*High School STEM Summer Camp with overnight option will be held June 5-8; Grade 3-5 STEM Day Camp is June 12-15; and Grade 6-8 STEM Day Camp is July 10-13.
- **"Computer Science Fundamentals for Elementary Schools"** is an ongoing series that SEA is able to offer thanks to our role as a Professional Learning Partner with Code.org. The premise is simple. Participants commit to gathering 25 educators that are interested in learning about CS fundamentals and technology's evolving role in the future. We provide the workshop for FREE!

We look forward to seeing you at our featured STEM events. Together, we can help feed the STEM pipeline while guiding our students to fulfilling careers.

For more information on upcoming STEM events at GCU, contact Strategic Educational Alliances at seainfo@gcu.edu

SEA STANDOUT – Delivering Education to All

Once a semester, between 20 and 30 special education instructors from Christian schools throughout Arizona gather on the campus of GCU to discuss and learn about Christian special education. According to Lisa Bernier, a full-time faculty member at GCU since 2013, the goal is to inspire all of the schools to glorify God and make disciples through their calling to educate children, providing high-quality Christian education that is accessible to all.

The workshop is the vision of Bernier, a former employee of Valley Christian High School (a Canyon Christian Schools Consortium participant school), where she started the special education program seven years ago. After arriving at GCU, Bernier began speaking to Greg Harman, Executive Director of Academic Alliances, about the need for such a program.

The result is a dynamic interactive workshop that focuses on topics such as Response to Intervention (RTI), Assessment, Universal Design for Learning, Designing Professional Development, Developing Forms and Policies and making Data-Based Decisions to name a few. At the conclusion of each session, participants discuss what they would like to see covered in upcoming sessions and future workshops are planned based on the input.

"Each one of the CCSC schools is unique in form and population," said Bernier, "but each one feels compelled by God to be discipling the next generation and serving their families well."

Coming together as a group has provided each school a network of people to call upon for support and encouragement. Each session includes what has

become the favorite part of the day – reports from the field. This is when each school gets to report on their progress and share their accomplishments with one another. This has bonded the group and taken on a life of its own.

Participants have visited each other's schools and have formed a "consortium within the consortium" of like-minded educators from different church affiliations. Organizers have been amazed by the cooperation and fellowship among Lutheran, ACSI, Catholic and independent Christian schools.

This gathering of special education professionals has convened seven sessions since fall 2013. Excitement is already building for the next meeting, scheduled for Friday, Feb. 17, 2017, at GCU.

Schools that are interested in attending the CCSC Special Education Workshop should contact Greg Harman at greg.harman@gcu.edu

CANYON COMMUNITY: No Secret about Sports!

It is no secret that sports teams have been the talk of the town at GCU. The Havocs (GCU's most spirited student body members), the general student population, faculty and staff have fully embraced the University's NCAA Division I programs, and so too have participants from our range of organizational alliances!

SOCCER

Seventeen (17) groups and schools brought approximately 645 K-12 students from public and private schools around the state to take part in Division I collegiate soccer at GCU. Schools with stellar choirs were given the opportunity to showcase their talents in front of thousands of fans by singing the national anthem before the game.

Visiting groups were able to experience the ceremonial game introductions with our teams, hand-in-hand, entering right into the bright stadium lights that left both the green pitch and the children's faces beaming. At halftime, school groups were able to enter the field and shoot penalty kicks against GCU student goalkeepers. Other groups scrimmaged at halftime to provide entertainment for fans.

For most, this may be the only experience they have playing a sport in a college atmosphere. Without question, this opportunity creates lasting memories for all parties involved.

BASKETBALL

SEA loves honoring those that are participants in our alliance programs. During the basketball season, we try to get as many of them involved as possible!

Learning STEM, Developing Character Women's Basketball Kid's Day is a prime example of getting the school community involved. This past November, about 2,000 students from 30 schools throughout Arizona attended the lady Lopes' first home game of the season. The students and their teachers and chaperones received free entry to the game, a halftime performance by the famed Simon Sez and a postgame STEM presentation on how science plays a role in basketball.

After the big win, visitors got to meet the players and receive signed posters as well as other GCU swag. The visiting students loved the opportunity to meet the team, take photos and ask questions!

SEA also hosts featured events at men's basketball games. On four separate occasions throughout the year, various alliance groups are invited to watch the Dan Majerle-led Lopes compete in high-intensity, Division I competition.

In addition, similar to soccer, we invite school choirs and bands to perform the national anthem prior to games in front of thousands of amped up fans. We appreciate our relationships with our alliance members and are thankful for the opportunity to involve them in the excitement of GCU athletics!

SEA would like to thank the following schools and groups for performing the nation anthem at GCU soccer and basketball games. LOPES UP!

- Christ Lutheran School
- Northwest Christian School
- Brophy Chapel Ensemble
- Andalucia Middle School Choir
- Air Force Academy
- Bourgade Catholic HS Marching Band
- Copper Canyon HS Choir
- Valley Lutheran HS
- Redeemer Christian School Band
- Greenway HS Choir/JROTC
- Basis Flagstaff Band
- Tempe Preparatory Academy
- Branches Homeschool Choir
- The Pacheco Brothers
- 91st Psalm Christian School
- Xavier College Prep Honors Choir
- Herrera School for the Arts & Dual Language Band
- Scottsdale Christian Academy Choir
- Valley Christian HS
- Youngker HS

If you have a band or choir interested in performing at a GCU basketball game, please email seainfo@gcu.edu

PURPLE PASS

On almost every Wednesday of the school year, partner schools visit GCU with teachers and chaperones to attend SEA's Thunder Vision sessions. During Thunder Vision, visiting students go on a campus tour and attend a talk entitled "You Are College Bound. Are you College Ready?" The students are also given a proposition: "Read books and you can gain free entry to GCU sporting events!"

The concept, called Lopes for Literacy, encourages teachers to set reading goals for their students. When students reach the goals set by their teachers, they earn a "Purple Pass." Literally, it is a purple ticket that admits the student and three of his or her friends or family members to a GCU sporting event. This program encourages reading, which in turn enhances writing, speaking and abilities – a true win-win situation.

If you are interested in signing up for a GCU college visitation session, please contact Bethany Egeler at bethany.egeler@gcu.edu

LOPES LATEST- Credit Where Credit is Due: AP Vs. Dual Enrollment

Over the past 20 years, the United States has seen a continuous upward trend in nationwide enrollment at degree-granting postsecondary institutions. This has led many high school students, parents and teachers to begin grappling with the question: Advanced Placement or Dual Enrollment?

Both pathways offer great benefits to a number of students, but neither is without risk. Dual Enrollment classes often lead to higher success rates and transferability, but require more stringent faculty qualifications. AP classes generally involve fewer regulations surrounding teacher qualifications, but can make it more challenging to earn credit. GCU has watched these trends closely and has made purposeful adaptations to its dual enrollment program in order to best meet the growing needs of students and faculty nationwide.

Across both its online and face-to-face modalities, GCU has seen incredible success in its pass rate for dual enrollment course work (see Table 1). Through careful engagement by faculty and the hard work of students, the model has supported students in achieving at a high level. In order to accommodate the largest number of students, GCU has developed a tuition model that reduces cost of its coursework by nearly 94% for all dual enrollment classes, while providing fully free coursework to certain student demographics. As a regionally accredited university, GCU receives great feedback about the transferability of its coursework. In addition, GCU has developed graduate-level coursework in the majority of content areas to assist teachers with meeting the dual enrollment standards set forth by the Higher Learning Commission. GCU teachers are charged only \$40 per credit for these graduate level credits, as a way of offsetting the rigors associated with becoming a qualified faculty member.

AP offers a great option for students as well, as it allows them to take a test to earn college credit for less than \$100. Even with great preparation by faculty members, students are reliant on earning a score high enough to transfer that credit into their desired post-secondary institution. Unfortunately, that can often be difficult for many students. As seen in Table 2 below, the percentage of students earning a 3 or higher on the most popular AP tests of 2016 is below 60% for the majority of content areas. Moreover, some colleges are moving away from the base expectation of course transferability with a score of 3. For example, one of our excellent in-state peers, Arizona State University, necessitates a 4 on many of the most popular exams in order to earn university credit. As a result, the likelihood of transferability declines due to a disconnect between high standards set forth by educational institutions and the passing rates of these exams.

AP exams are a great option for a great number of students nationwide; however, there are a potentially even greater number of students who are unable to score high enough to transfer these credits into the university of their choosing. By offering dual enrollment courses, a high school stands to reward their students' hard work with greater security in the transferability and application of their credits earned.

GCU respects the great work being done within both environments and will continue to seek out ways to prepare students for their college careers while reducing cost of attendance and time to completion – two areas that are well-served by dual enrollment programs. GCU encourages its partners to learn more about our online and traditional modalities to see whether our programs may be right for your students.

Table 1

Modality	% Successful Pass Rate (2015)
Face-to-face	94%
Online	89%

Table 2

Subject	Tests Taken in 2016	% Scoring 3+	% Earning Transfer Credit (based on lowest transferable ASU course)
Biology	238,080	61.1%	61.1%
Calculus AB	308,215	59.5%	59.5%
Chemistry	153,456	53.6%	21.6%
Economics (Macro)	134,638	57.0%	30.8%
English Language	547,575	55.4%	28.3%
English Literature	405,446	54.6%	25.2%
Environmental Science	149,096	45.6%	30.8%
Government and Politics (US)	296,108	50.8%	25.8%
Human Geography	184,663	51.8%	32.0%
Physics 1	169,304	39.8%	18.6%
Psychology	293,360	64.2%	45.2%
Spanish Language	155,258	89.4%	51.6%
Statistics	206,563	60.9%	60.9%
US History	489,291	52.4%	28.8%
World History	285,351	51.6%	22.2%

AP data sourced from the following links:

<https://apstudent.collegeboard.org/creditandplacement/credit-policy-detail?diCode=4007>

<https://apstudent.collegeboard.org/creditandplacement/credit-policy-detail?diCode=4331>

<https://securemedia.collegeboard.org/digitalServices/pdf/research/2016/Student-Score-Distributions-2016.pdf>

PARTICIPANT CORNER

CCSC and the Learning Lounge: The CCSC component of GCU's Student Development and Outreach is not only built upon, but ever-earnestly strives to preserve, the virtue of Godly servant leadership. As our CCSC scholarship recipients apply themselves academically, we seek to provide them with opportunities to further develop their awareness and passion for aiding the communities that surround them. This is accomplished through a collaborative effort with multiple GCU staff and faculty partners to help facilitate on-campus service projects throughout the academic year. Our ultimate goal is to stand alongside GCU's mission to help our students embrace the reality of their career-related purpose being a God-given calling; it is a spiritual matter of the heart that transcends all earthly pursuits. If our scholars can successfully graduate from this campus with a desire to lead and lift others as they climb, we are performing our job well.

CCSC students serve and support fellow GCU students and assist faculty on our campus to ensure that all runs smoothly. For example, CCSC students are called upon to assist in signing in students for Explore More sessions led by faculty and staff. These are small study sessions the faculty and staff hold to review some of the more difficult concepts taught in class. This supports our students finding their purpose because the CCSC volunteers can have students sign their names when attending sessions which allows for us to capture that information in a database and send out to colleges and professors. The students who are struggling can then be given even more support with our Learning Advocates at the Learning Lounge or faculty can reach out to them personally and see how they can support the student. Without this important step of signing students into these sessions, our university would not be able to reach out to those in need with as much accuracy.

Another way our CCSC volunteers serve and support the University is within K-12 Outreach. GCU has free learning assistance for nearly 45 schools, ranging from kindergarten to high school, with available help in reading, writing, math and science. Our volunteers assist students with studying these subjects while learning to build confidence in young people, mirror the love of Christ and serve our community in a way that better the lives of those in need.

In these ways, CCSC scholarship recipients uphold the GCU mission and learn to better serve our world while finding their own purpose.

PLLS: In early December, SEA and Thunder made a visit to the College of Education's College and Career Day.

SEA's Director of Educational Development and Support, Kathryn Scott, shared with the classes what college is all about. Kathryn and the famous GCU mascot, Thunder, spoke on the importance of college, how it helps you find your purpose in life, and the ways that attending college helps you learn career skills that prepare you for your dream job!

In addition, GCU recognized Tim Brienza from Cibola High School of the Yuma Union High School District as a STEM principal of the month. Congratulations Mr. Brienza and keep up the great work!

CEP: The Canyon Educational Participant program designed for public charter and private schools recently created an advisory board. The board meets four times a year to receive updates about GCU and to provide input on ways the SEA department can support our participant schools. In the last meeting, the group learned more about Professional Development opportunities available through GCU's Today'sLearn. There was much interest in the available opportunities, and this led to a proposal for collaboration with other schools in the CEP network. This collaboration would make professional development opportunities hosted at each school's site available to more people. This would be particularly helpful for schools that do not have a large staff.

If you would be interested in attending a meeting on GCU's campus to learn more about Today'sLearn programs and network with other administrators for potential professional development collaboration, please contact Leigh Critchley at 602-639-6556 or email leigh.critchley@gcu.edu. We would also be happy to speak at school network group meetings you currently attend.

ALPHA: The Alliance Program for Homeschool Achievement recently concluded a three-part series for homeschool families called Going the Distance. The seminar focused on preparing homeschooled teens for the college experience. A total of 117 homeschoolers and their parents attended over the three-day span.

To submit information on your participating alliance, contact Cole Bucholc at cole.bucholc@gcu.edu

LOPES LEAP: Attracting and Retaining Quality Teachers

Lopes Leap to Teach and Lead was launched to strengthen the efforts of GCU's College of Education as it works to support future educators and stem the tide of Arizona's growing teacher shortage. The impact of this initiative has decreased the teacher shortage by helping to create connections between GCU College of Education graduates and Arizona school districts. Districts from all across Arizona visit GCU's campus to present features of their culture, curriculum, diverse programs and available resources.

Through relationship-building during these events, teacher candidates can learn more about each district and school for potential practicum hours, student teaching requests and future employment. The most recent gathering, the college's Career Expo and Networking Event held on Monday, Oct. 24, included over 50 Arizona districts and approximately 160 GCU teacher candidates. The districts interviewed students for teaching positions, provided information regarding practicum and student teaching opportunities, and enabled some candidates to sign letters of intent. **The College of Education's next Career Expo and Networking event will be held on Wednesday, April 19 from 2 – 4 pm on GCU's campus.**

GCU TODAY: Electronic Copy

[View](#) an electronic copy of GCU's quarterly magazine *GCU Today*.