Fall 2015

What’s Going On?

Advisory Council

The Natural Science Department’s Fall Citizens Advisory Council Meeting is Thursday, November 12th, 2015. Advisory Committees are utilized by the faculty and administration to provide two-way communication with citizens possessing special expertise and interest in college programs and services.

Core Outcomes

On September 18th Cowley Instructors, David Hays, Chad Killblane, Tiffany Corley, Humphrey Wamocha, and Ernest Morrison were among a group of representatives from Kansas colleges that met at Johnson County Community College to attend the Core Outcomes Meeting. Attendees separated into their discipline groups following the opening session.

- Elementary Statistics - David Hays reported seven generic competencies were passed this year to allow for flexibility for each college. His recommendations for Cowley: To keep current competencies “as is”, and leave College Algebra as a pre-requisite.
- General Chemistry (for non-majors) - Chad Killblane reported the group accepted last year’s standards written for General Chemistry only. Cowley course CHM4211, General Chemistry, satisfies the General Chemistry for non-majors.
- Engineering Physics I - Humphrey Wamocha reported his group discussed Mechanical Waves be taught in the first semester. Cowley already teaches Mechanical Waves in the first semester of the course, so no change is proposed.
- Biology for Majors I - Tiffany Corley reported this group discussed the terminology of General Biology. The Core group voted on six outcomes, and Cowley has these included currently in the Biology program.
- Physical Geology - First time meeting for this group. Ernie Morrison reported the discussed outcomes are already implemented in the Cowley Geology course.

Professional Development

- Martin Shaffer attended the American Association of Physics Teachers (APPT) Two Year College Leadership Institute 2015 in College Park, Maryland on July 24-28. He worked on skills and strategies to progress physics at two year colleges, attended workshops designed to integrate biology with physics, and attended the National APPT conference at the University of Maryland. On September 17-23, Martin traveled to Japan to teach high energy physics workshops to teachers and students. He is a part of the Fermi National Laboratories Quarknet program that specializes in educational outreach in high energy physics projects. As a follow up workshop from his summer 2014 Japan trip, he spent two days with high school teachers building a cosmic ray detector at the University of Tokyo. Martin spent time with students at two high schools, one in Tokyo and another in Shizuoka. He provided the students with activities to help further their knowledge of cosmic rays and their importance.

- Brooke Istas was in Columbus, Ohio June and July. On June 9 - 10th, she facilitated Adult Numeracy Initiative Institute 1 Training. During June 22-23rd she facilitated Adult Numeracy Initiative Institute 3 Training, and July 6-8th, she facilitated Adult Numeracy Initiative Institute 2. In Little Rock, Arkansas, she facilitated a two day work shop on July 9-10, and July 12-15 she attended the Adult Learning Mathematics International Conference in Washington, DC. Brooke presented, “Infographics: making informed decisions with data”, at the Commission on Adult Basic Education Regional Conference July 17th in Ames, Iowa. On July 31-August 3rd, she attended the Adult Numeracy Network Board retreat in Maine. Brooke is webmaster on that board, and the Regional Representative of the Central Region.

Kudos

Mike Hayden completed six hours of graduate classes, Technology in Mathematics and Mathematical Statistics, at Emporia State University during the summer of 2015.
Physics News
Students from Cowley College participated in the International Cosmic Day (ICD) event held November 2nd - 4th, 2015. ICD enables students to contact particle-astrophysicists to get insight into their research, experimental methods and everyday work.

The students began by learning about cosmic rays, where they come from, how they can be measured, why it is important to study them and what effects they can have on our ever decreasing size of electrical systems and biological systems. The students were introduced to a working cosmic ray detector and allowed to design an experiment suggested by ICD so they could collaborate with other students around the world. They chose to look at the effect the incoming angle of cosmic ray particles have on their overall rates. After pointing the detector starting at 90 degrees North and collecting cosmic ray muon rates for 10 minutes, they changed their viewing angle by 15 degrees upward, and collected data until the detector was at 0 degree Zenith angle and continued to 90 degrees South. The results were analyzed and determined to show more cosmic ray radiation coming from directly overhead than from the horizon.

The students participated in video Skype conferences with European and United States groups on November 5th. They created documents to share with other schools, and will have their results published by CERN institutions. Cowley student participants were: Anna Aspinwall, Karla Crispin, Aaron Hein, Brad Ingram, Cristal Marquez, Ian McMains, Quentin Noland, Jenna Pfaff and Jessica Ramirez. Physics instructor Martin Shaffer was the moderator during the United States Skype session.

Windmill Physics Event
The Natural Science Department along with the Ark City campus Math and Science Club sponsored the Tiger Windmill Competition on November 4th, 2015. The competition was open to all Cowley students and cash prizes were awarded for the most efficient designs.

Students had approximately one month to design, build and test their own model windmill constructed by using only a CD ROM disk, popsicle sticks and construction paper. During the competition, the windmills were attached to a stand that was placed a set distance in front of a running box fan. Voltage probes measured the efficiency of the windmill, and winning designs were based on generating the highest average voltage during a set time frame.

The top three designs were created by students: Tim Tong, who took first place, Jenna Pfaff earned second place, and third place went to Elijah Rebold.

New Equipment
The Natural Science Department purchased new equipment for several classrooms. One polarimeter and one melt station for Organic Chemistry. A Diffraction Grating Spectrometer was purchased to be shared by Physical Science, Chemistry, and Astronomy classes. The Biology classrooms received two lab lights and three laptop water baths. A LabQuest Mini was purchased for Chemistry and Biology, and LabQuest2 packs and probes for the Physics classes on both Ark City and Mulvane campuses. Three Rotary motion sensors went to the Mulvane Physics classes. A new Whiteboard system will be set up in Renn Library, Room 105, for several Math classes. One set of Scientific calculators was purchased for Math instructors and students usage.

Math & Science Club
ΜΑΣΧ (Mu Alpha Sigma Chi) meets the first Wednesday of each month in Ark City, and the third Wednesday in Mulvane.

Ark City 2015-2016 club President is Elijah Rebold. Mike Hayden and Humphrey Wamocha are the Ark City sponsors. Fall events included:
• September: Cookout in Paris Park.
• October: Tulsa Aquarium.
• November: Sponsored the Windmill Competition. Chad Butler is the 2015-2016 Mulvane President. Uwe Conrad and David Hays are the Mulvane sponsors. Fall events included:
  • September: “Wiener Feast”, they handed out 64 free hotdogs and ran videos of past club activities.
  • October: Annual Oktoberfest, they raised $70.00.

Math and Science Day Competition
The Natural Science Department and Mu Alpha Sigma Chi sponsors are holding a scholastic competition in Math and Science areas for high school students, February 10th, 2016.