Math/Physics/Technology Division

The Math/Physics/Technology (MPT) Division is working hard to address several challenges concerning student learning, success rate, and course offering. Members of the division are encouraged to be innovative and resourceful, and explore alternatives to teaching strategies and student learning outcomes. To confront the challenges the MPT developed ideas and have implemented them.

Math Learning Center and Self-Paced Learning: MPT Division members at the Tsaile and Shiprock campuses began using online software called “MathXL” for all developmental math students to complete their homework. The self-pace method allows students to work and learn math at their own pace using MathXL and can progress to the next chapter by showing a 70% competency. The self-paced learning method started in the fall 2013 semester. Through the efforts of MPT faculty members at the Shiprock campus two classrooms was converted into a full-time math-learning center equipped with 32 Windows based personal computers. Students taking a math course now have access to computers five days a week and at least 8 hours per day and with contributions from the Title III Program, students are provided with two full-time professional math tutors.

Math Circles: Mathematical Circles are a form of education enrichment and outreach that bring mathematicians and mathematical scientists into direct contact with pre-college students. These students, and sometimes their teachers, meet with mathematical professionals in an informal setting, after school or on weekends, to work on interesting problems or topics in mathematics. The goal is to get the students excited about the mathematics, giving them a setting that encourages them to become passionate about mathematics. Dine College offers math circles to the following schools: St. Michael Indian School, Ganado High School, Many Farms High School, Rough Rock Community School, Round Rock Middle School, Thoreau Middle School, and Kayenta School District.

Summer Math Camp: The summer math camp at Dine College is an intense academic program that provides motivated students an outstanding opportunity to begin university/college mathematics and science studies before graduating high school by means of a successful college experience for students who are underrepresented in mathematics and science fields and to enhance their prospects for future academic success. The summer math camp helps students gain a whole new self-identity through their participation. They discover other students who enjoy mathematics and have a chance to feel like experts in a field. The summer camp also provided a wonderful opportunity for young students to experience the joy of mathematical exploration and discovery.

Teacher Workshop: Each semester there was a two-day workshop for teachers on the Common Core Standards for Mathematics. The teachers also produce lesson plans that focused on the CCSM, which will be archived at Dine College for other math educators to use. This will strengthen the math education across the Navajo Nation.

Developmental Course Offering: Due to cutbacks in funding support for students from the Navajo Nation Scholarship and Federal Assistance the MPT Division needed to cut the credit hours in developmental math while maintaining the standards and core competencies that allowed students to enter and successfully pass college algebra.

The MPT Division combined two developmental courses, MTH 011 – Basic Math and MTH 051 – Beginning Algebra into one course called MTH 096 – Basic Mathematics.

The new MTH 096 – Basic Mathematics course started in the fall 2013 semester and the course content contains lectures and course materials that will allow students to successfully progress into MTH 100 – Intermediate Algebra with confidence.

Student Recruitment: One of the MPT division’s annual strategic plan and objective is student recruitment. The division will aggressively recruit students into their program of study and course offering by creating a brochure, organizing a math knowledge bowl among area high schools, getting involved in student clubs and organization, getting actively involved in career fairs, and through community association.

At the Tsaile campus, the spring 2014 semester enrollment in all upper-level math courses has experienced an all time high. Some courses were closed due to enrollment capacity and others were near capacity. Course like Pre-Calculus that was often cancelled due to low enrollment was closed with 21 students enrolled.

Future Plan: The Math Knowledge Bowl is to encourage students to investigate diverse areas of mathematics. There will be many tables with exciting mathematical activities set up. These activities will range from levels that middle school students will enjoy, to levels that will challenge the brightest high school students.
SREP at Diné College Recruiting Students for Summer ‘14

Students and faculty in the Summer Research Enhancement Program (SREP) pose for a photo on the Tsaile Campus in 2013.

Diné College has developed a unique summer program for Native American students interested in public health research and has provided the program every summer since 2000. This program is funded through the Center for American Indian Resilience (NAU, UA and DC) and the Center for American Indian and Alaska Native Health at the University of Colorado.

The vision of the Summer Research Enhancement Program (SREP) at Diné College is to prepare Native American students for careers in public health and health research and to strengthen research capabilities of Tribal Colleges and Universities. The program is available to freshman and sophomore college students and provides a culturally supportive atmosphere for developing a strong, multicultural approach in public health and health research work.

The 10-week program helps students to develop skills and interests in public health and health research and participate first hand in community based, ongoing projects at Diné College, the Navajo Nation and other Native American communities. During the 2013 SREP there were 12 students, who worked on projects in IHS clinics, Navajo Nation health programs in diabetes and community outreach, dialysis centers as well as actual research projects with Johns Hopkins University.

While participating in SREP, the students receive:
- $3,600 stipend (distributed in installments over the ten weeks)
- Books and Materials
- 7 transferable college credit hours in public health
- Coverage for all college fees and materials.

During the 3-week training session at Diné College-Tsaile Campus, room and board are provided without charge for all program participants.

Applications can be downloaded at:  
http://www.dinecollege.edu/institutes/SREP/srep-application.php  
Application Deadline: March 14, 2014

“My grandchild, education is the ladder. Tell our people to take it.”
— Hastinn Ch’il Haajiin (Manuelito)

Page High School Runner Signs with Diné College

Diné College Athletic Director and Head Cross Country Coach Shaun Martin, recently signed Page High School Senior Runner Victoria Benally to run for Diné College in the fall.