

NUCLEUS

NEWS PUBLICATION OF THE PRE-COLLEGE PROGRAM

WELCOME to the second issue of the Center for Mathematics & Science Education Pre-College Program newsletter! Thank you to all of you who contributed to this summer's newsletter. If you would like to contribute to the Fall 2008 Nucleus please let Beth know by calling 828-227-2712 or email her at bdenmon@email.wcu.edu.

COORDINATOR'S UPDATE

Dear Pre-College Program Students, Parents/Guardians, Staff and Friends,

I am very pleased to share with each of you great news regarding the funding of the NC-MSEN Pre-College Program at WCU. Thanks to the efforts of many, we have secured state funding for the program for one more year! We are thrilled to have the opportunity to continue this beneficial program and would like to extend a very special thank you to all of you that wrote letters, emails and made phone calls to our NC Senators and Legislative Representatives to ensure that the Pre-College Program received funding! However, until we receive recurring funds (more than one year), we ask you to keep up your efforts—especially if you feel that the Pre-College Program makes a positive difference in the lives of our students. Please contact our office if you would like to help secure future funding of the program. We have published our 2008-2009 dates and look forward to seeing you at each of our upcoming events.

We have just completed a very successful Summer Scholars 2008. Eighty of our Pre-College Program students, representing seven different school systems, joined us on the campus of Western Carolina University to study math, science, technology and communications for eight days during June. This summer the rising 7th and rising 8th grade students focused on learning themes that were integrated through all of their classes. The rising 7th grade students examined "wetlands". They learned about water quality, its effects on aquatic invertebrates and much more. The rising 8th grade students focused their work on "physics in motion". They studied physics and put their knowledge to the test as they designed roller coasters, amusement parks and created commercials for their inventions. The rising ninth grade students worked hard this summer to prepare

themselves for high school. They studied Algebra and Geometry, learned to make movies that examined world views, studied Earth and physical science and embarked into self discovery as they wrote personal mission statements and participated in a "values auction". Thanks to all of you that helped to make our Summer Scholars 2008 safe, fun and successful.

We have a great summer and fall planned for the Pre-College Program. On Saturday, July 26th we took students to the Appalachian Highlands Learning Center at Purchase Knob to work with Great Smoky Mountain National Park biologists on current research projects. On August 30th, 2008 we will host the second annual Pre-College Program Career Fair. Local community professionals will speak to students about their careers in science, technology, engineering and mathematics (STEM) based fields. Students will learn details of the opportunities that exist in STEM based careers and gain insight on the education that will be required to land a job in these careers. Please look for a mailout regarding this event and other fall and winter Saturday Academies. We will see you there!

Erin McManus
Pre-College Program Coordinator



8th grade students form a message during Summer Scholars camp

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UPCOMING DATES

The following dates have been set for the remainder of 2008 and 2009:

Saturday, August 30th: Career Fair on campus, 10 am until Noon

September 26-27: NC OPT ED Alliance Day trip. Participants to be determined.

The following dates have been set for Saturday Academies, 10 am until 2 pm each day:

- October 11**
- November 8**
- December 6**
- January 24**
- February 21**
- March 28**
- April 25**

***special trips in May**

***camp dates in June to be determined**

**all dates and times are subject to change. Please read the letter we mail you each month for details.*

STUDENT CONTRIBUTIONS



Well, hi, we are two students who attended Summer Scholars camp. Here's our story about it.

(5 stars) Class Activities *****

While we were at camp we did some activities in class to help us learn about this summer's topic. We did...

Integer war - a tricky card game with integers



Bog menu - what would a bog restaurant sell?

Team Building activity - let's all get tangled in the Human Knot

Aquatic Creature Trading cards - trading cards with lots of info about aquatic creatures in a bog

Poetry - an animal's point of view about life

Reader's Theater - a short story about an endangered bog

Class Debate - should we keep them or build on top of them? Keep them!

(5 stars) Faculty *****

The faculty was great there! They were very hard workers, very nice, polite, very patient, definitely helpful, very very helpful, and fun to be around but serious when needed to be.

(4 stars) Field Trips ****

Well on one super-duper field trip, we went to two bogs and Tilley Creek! We tested each body of water for the pH level, flow rate, nitrates, temperature, dissolved oxygen, and turbidity. We also observed all the wildlife! On another we went to Cullowhee Creek and caught and studied many organisms. Some other things were we walked all over campus and played Frisbee frequently. It was so much fun!

(5 stars) What we Learned *****

We learned so much we don't have enough room on 10 papers to tell you! We learned a ton. Here it is:

- About Integers and how to test the quality of water
- About the life in a bog/wetland and how much they help the ecosystem
- About the earth's majority of fresh and salt water
- How to use a Mac computer



As you can tell we learned a lot while we were having fun at WCU! And I hope we can do it again next year so goodbye! And see ya next year!

-written by Brooke Jones and Katie Moninghoff

As I was walking across the forest one day I stumbled across a bog. I thought in my head, maybe I can walk across it? As I tip-toed across I could hear the water creatures under my feet swishing in the water and the beetles and the rolie-polies making noise. I felt good walking with the many thousands of creatures. The moist sphagnum moss seeping through my toes, and the sundew, pitcher plant, and other carnivorous plants looked beautiful with their flowers in bloom. The fish jumped to catch their food. I was amazed that this fruitful bog was a glacier millions of years ago. The water was very green with acidity. I was shocked at how the birds chirped their happy songs with the bulldozers in the background and the smell of the flowers that were filling my nostrils. The dragonflies landed on the tops of my wrists and all over my shoulders. It was beautiful with all of my senses working at the same time.

If I was to walk on a bog that is what it would be like!

Sincerely, Matt P.S. I will be back next summer!

- written by Matt Mordhorst



Over the summer the 8th grade Summer Scholars were very busy designing and creating original amusement parks. Parks featured the most unique roller coaster designs ever! Not only did we design but we also built the roller coasters and tested them out in a competition that had all of us rolling with laughter. The roller coaster competition was radical and we had a blast! We



learned the physics behind making roller coasters such as velocity, gravity, and acceleration. We were driven to delirium by the dramatic formula $D=1/2 at^2$. In technology we produced our very own commercials which featured music, graphics, and special effects. These crazy commercials really caught our creativity. In communications we designed amusement parks which are amazingly perfect and audaciously peculiar. We learned the 4 P's of marketing which helped us to advertise our parks on ginormous poster displays. Having this much fun made getting up so early in the morning easier and we are already looking forward to next summer!



-written by 8th grade students

Personal Mission Statements

"I value Intelligence because I want to make a lot of money doing what I like to do most; I want to be a technically advanced student at MIT. I value sports because I would like to be a professional athlete."

"To develop the qualities of giving, and caring that I admire in my mom so that I will be a great person."

"To be known by my friends and family as someone who is athletic, creative, funny, and can be the entertainment."

"To go to school until I get my PHD so that I can have a wide variety of jobs. I will take college classes in high school to get ahead."

"To live each day as a caring, giving, and helpful person. I will do this by doing Community Service work, giving to the needy, and assisting elderly people at nursing homes."

-Shay Taylor Marceau

To be a teacher so that I can inspire children as my teachers have inspired me. I will do this by developing the kindness and comfort that I found in Catherine Engel.

To live each day with my Savior so that I may have a purpose in my life and may meet Him in Heaven. I will do this by praising Him and singing my songs of joy in His name.

To appreciate and enjoy each day I have on this Earth by assisting others in their times of need by doing volunteer work and serving as a friend when it seems no one is there.

To be known by my friends and family as someone who is caring and generous; by my future students as someone to look up to and someone who can be more than a teacher, that can also be a friend.

-Elizabeth Leah Haynes

To develop the qualities of honesty and love for everyone that I see in Emmy Miller so that I can become a successful teacher.

To appreciate and enjoy the place that I live, and the people that live around me by taking time to thank my neighbors and help them when they need it and pray and thank the Lord for the beauty in which he has placed me.

To live each day with a warm and loving heart and joy that I am alive so that I can be a better person. I will do this by being calmer and gentler to others.

-Amanda Day



9th grade projects at the reception

EV CHALLENGE MAY 2008



Twelve middle school students representing the College of Education and Allied Profession's NC-MSEN Pre-College Program at Western Carolina University competed in a statewide EV Challenge Junior Solar Sprint solar car race on May 17th on the campus of NCSU. Students included Asa Walker, Daniel Massingale, Zachery Cook, Devin Alewel, Sawyer Leatherwood, Jake Pierce, Nicki Arrington, Ethan Edwards, Lindsay Kihnel, Dean Triplett, Josh Jiang, and Michelle Morgan.

The EV Challenge / Junior Solar Sprint Solar Car Race is a Burroughs Welcome/NC Solar Center sponsored event that challenges middle school students from across the state to construct model cars powered by small photovoltaic panels. The Pre-College Program middle school participants have been constructing and fine tuning their solar powered vehicles since February to be judged on creativity, design, and speed. Local businesses and individuals sponsored the student's travel to the event. These sponsors included Haywood EMC, Waynesville; Dr. Ross Irvine, DDS, Clyde; Michael and Jeannie Henson, Canton; Topline Auctions, Waynesville; First Choice Real Estate, Dillsboro; Roberson's Service Center, Murphy; JXT Company, Robbinsville and Bruce and Hook Inc, Murphy. A special thank you to our sponsors!

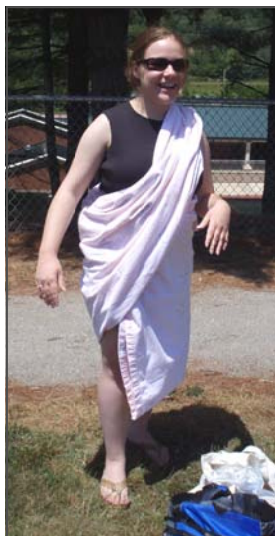
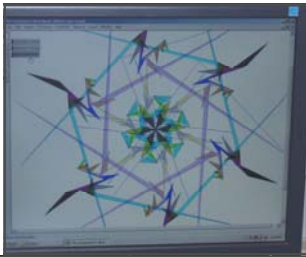
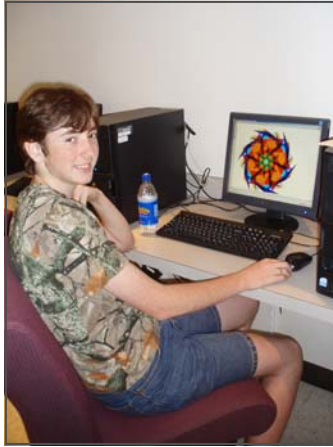
Three of the Pre-College Program teams from Western Carolina University placed in the top five at this statewide competition. The Carolina Tarwheels (Daniel Massingale, Sawyer Leatherwood and Ethan Edwards) took first place in the Technical Innovation category. Team Starberry (Lindsay Kihnel and Nicki Arrington) placed in the top five in the creativity category. Team Altoids (Michelle Morgan, Asa Walker and Dean Triplett) placed in the top five in the Speed category. Thanks to all of our participants for all of their hard work and dedication.

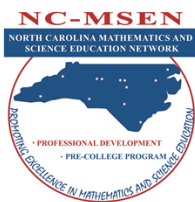
The Pre-College Program will participate in the EV Smart Challenge again next spring. All students are encouraged to apply for the project. We will begin the application process next January or February.

SUMMER SCHOLARS JUNE 2008



MORE SUMMER SCHOLARS JUNE 2008





Center for Mathematics & Science Education

Pre-College Program

149 Cordelia Camp Building

Cullowhee, NC 28723

<http://precollege.wcu.edu>

WELCOME NEW STAFF!

Jennifer Beasley

Jennifer joined us this summer as the 7th grade science teacher. When she is not working with the Pre-College Program, you can find her teaching 6th grade Language Arts and coaching an Environthon Team for Haywood County Schools.

Jay Ferry

Jay came on board this summer as the 8th grade technology teacher. Though a former IT consultant, Jay is now teaching 4th grade for Macon County Schools.

Christa Conner

Christa, a former Pre-College Program Mentor, returned this summer to teach 9th grade mathematics. Christa recently finished her student teaching and has accepted a position as an Algebra and Geometry teacher for Macon County Schools.

GOODBYE Amy Larson! Amy has worked for us since last summer as a science teacher and office assistant. She is moving to Flagstaff, Arizona to pursue a Masters degree in Science Teaching at Northern Arizona University. Good luck to Amy! We will really miss you!



THANK YOU TO OUR VOLUNTEERS

during Summer Scholars camp. We had several parents who chaperoned at our bus stops. A big thanks goes out to Jeanette Marceau, Barbara Hart and Janet Smith for chaperoning the Swain Middle School bus stop. Also, thank you to all of the parents and guardians that brought food, drinks and supplies to the parent open house. Your contributions helped to make this event very special.

A special thanks goes to Carolyn Fouts, who drives the bus for Macon County; she helped us in the office during each day of camp. Moises Otero, the bus driver for Swain County, helped our technology classes in the computer lab. We appreciate their help and we are glad they were able to save gas by not driving the busses back and forth each day.

We consider the Pre-College Program as our large family. It takes many hands to make this program successful. Thanks to all of you for the many sacrifices and contributions.