UNMC High School Alliance
A Health Sciences Enrichment Program

The UNMC High School Alliance Begins Fourth Year in 2013-2014

As the UNMC High School Alliance program begins its fourth year, we take a look back at how the program started and where the program is today.

The program opened its doors to the inaugural class in the fall of the 2010-2011 school year. That first class was comprised of 36 high school juniors and seniors from eight school districts, 17 high schools, and one educational service unit. During this inaugural year all of the students took the same courses: Biomedical Research and Medical Decision Making in the fall; and Anatomy in the spring.

The success of the first year attracted additional school districts, the need to expand the number of students for the second year, and another full-time certified high school teacher. More classes were offered and students were able to select the classes that interested them the most. The classes that were added include: Infectious Disease, Genetics, and Community Health.

Building upon the success of the first two years, the UNMC High School Alliance program expanded the number of students to 55 for the third year and added one more class, Health Science Fundamentals: Patient Centered Care.

Infectious Disease: Microbes, The Good, the Bad, the Ugly

The Infectious Disease course welcomes Ms. Marnie Imhoff to work alongside Ms. Linsey Donner in lecture as well as in the lab.

Both instructors have kept the students on their toes with the implementation of reading case studies that involve the organisms being studied. This year more organisms to study were added, giving the students a wider range of microbiology topics.

Pathology: Fundamentals of Disease

The pathology course, instructed by Dr. Geoffrey Talmon, is well underway. The High School Alliance students thoroughly enjoy Dr. Talmon’s enthusiasm and passion for science. The students have been learning about the study of histology, immunology, and inflammation.

They can identify various disease states at both the cellular and tissue level and they understand how this identification process plays a role in patient diagnosis.

Alexis Reza (Bellevue East) creates a protein bracelet in the Biomedical Research Class. (See story on page 5).

see Fourth Year pg 6

see Infectious pg 6

see Pathology pg 7
From the Program Coordinator

Welcome to the first edition of the UNMC High School Alliance Newsletter!

We intend to send a newsletter twice a year — once in the fall and once in the spring to update you on what is happening at the UNMC High School Alliance Program.

As we begin our fourth year of the program, our mission remains to be an academic enrichment program that immerses highly motivated secondary students from varying educational and socioeconomic backgrounds into an environment that introduces them to healthcare professions.

Our students have come from 21 different high schools and 10 different school districts since we began the program in the 2010-2011 school year.

We would like to thank The Sherwood Foundation, all of the UNMC faculty, staff, and students for their continued support and commitment to this program. We would also like to thank the school districts, their superintendents, counselors, and science teachers for sending us such inquisitive, passionate students. To our teachers and UNMC High School Alliance staff, thank you for making the program successful. And of course, we want to thank the parents and the students who made the decision to be a part of the program.

We hope that you enjoy the information in this newsletter. If you would like to see other aspects of the program, please let us know. We are happy to showcase our program and the UNMC campus whether in person or adding more pages to our newsletter.

Heidi Kaschke
Program Coordinator
"It’s important to get people interested in health care careers early on, to expose them to all the different diversity of careers available.” - Bill Lydiatt, MD

UNMC High School Alliance students shadow Captain David Mann at the City of Omaha Public Safety Training Center on Friday, September 27, 2013.

Me and My Shadow: High School Alliance Seeks Mentors

By John Keenan, UNMC Public Relations

Bill Lydiatt, MD enjoys working with the young students of the UNMC High School Alliance.

He thinks his colleagues and other medical professionals would enjoy it as well, and the program is inviting them to try. The program is seeking professionals to allow the students to shadow them during a regular working day.

An instructor in the program since it began four years ago, Dr. Lydiatt is enthusiastic about the alliance.

"It’s important to get people interested in health care careers early on, to expose them to all the different diversity of careers available," he said. "It's important to expose diverse youth, as well -- kids from different backgrounds."

One of the high points of the program for students is the opportunity to shadow a health professional. Dr. Lydiatt has been a "shadow mentor" with the program since its inception.

He says the activity offers advantages not only to the students, but to the participating professionals.

"As physicians and health care professionals, we become accustomed to fairly remarkable experiences," he said. "We get to take part in very critical events in people's lives. We get to see them express incredible gratitude, but also fear and a whole range of emotions."

The reactions of the students, Dr. Lydiatt said, can remind professionals of the wonder and gravity of their work.

"It's nice to see that, to think about what it is like to witness this event as someone who's had little to no experience in these situations," he said. "It reinvigorates your interest in what you do; it brings back some of the awe of experiencing what we get to experience as physicians and health care workers."

Since the High School Alliance has only been in existence for four years, it's still too early to judge its impact. However, Dr. Lydiatt already has seen signs that the involvement of health care professionals leaves its mark.

"In class, and in the writing assignments, I have come across very insightful, wise observations," he said. "Students will often draw on a major experience they saw in clinic - a person with an end-of-life issue, or a person newly diagnosed with cancer."

Dr. Lydiatt highly recommends the mentoring experience. There's little time commitment, and the students are HIPAA-trained and prepared to act professionally.

"They are respectful, appreciative and very bright, and they will bring a different and new insight to your daily experience."

For additional information or to become a shadowing host, please contact the UNMC High School Alliance program at (402) 559-3027 or unmcshalliance@unmc.edu

Dr. Lydiatt allows students to shadow him throughout the school year.
Community Health Class Takes Field Trips

The Community Health course welcomes Ms. Katie Brandert and Mr. Brandon Grimm as the new lead instructors this year as Dr. Andy Jameton prepares for retirement.

Under Ms. Brandert and Mr. Grimm’s guidance, the students have taken field trips to both the Papillion Creek Water Treatment Plant and The University of Nebraska-Lincoln Feedlot near Mead, Nebraska.

The students were able to get up-close and personal with items that impact their day to day lives. Hearing the cows conduct a chorus for the students, along with learning how the animals are treated as humanely as possible were the highlights of the trip.

The students also participated in different activities that took the idea of health care from the individual to the community, bringing the class towards the concepts of public health.

They had the opportunity to hear from Dr. Adi Pour the Director of the Douglas County Health Department on the results of the department’s latest survey for the county, indicating the biggest issues facing Douglas County. With that information the students are now working on different research projects that involve areas of concern.

The students will work in pairs to complete a formal written paper and conduct a presentation that address actions that can be taken place in the community to help with an area of concern. By: Jaynie Bird, Certified High School Teacher

Applications for the 2014-2015 UNMC High School Alliance program will be available in December 2013. Please check our website: www.unmc.edu/alliance to download the application and for more information. The deadline for submitting applications will be February 28, 2014.

Students in the Community Health class visit the Papillion Creek Water Pollution Control Plant on September 11, 2013.

Students in the Community Health class learned about grain processing at the University of Nebraska—Lincoln Feedlot during a field trip on October 4, 2013.
The biomedical research course welcomed two new UNMC graduate studies students as instructors this year. Alek Erickson is a second year graduate student in the laboratory of Dr. Andrew Dudley and Joseph Rohr, a UNMC MD/PhD student, is a first year grad student in the laboratory of Dr. John Chan.

The High School Alliance students started the school year off brushing up on cell biology, the metric system, and mathematical conversions. Their fine motor skills have been tested time and again when using their micropipettes in the lab. Molecular biology concepts were the main focus of the month of September. The students are now better prepared for their post-secondary science course work!

A highlight of the course is that the students will spend four afternoons in various UNMC biomedical research laboratories this semester. From those experiences, the students will have a better understanding of the world of biomedical research in terms of the vast spectrum of molecular research, the integrated techniques utilized, and the state of the art technology that advances research and the delivery of health care.

The students will present on their experiences in December, culminating an exciting semester of biomedical research!

By: Ashlie Nelson, Certified High School Teacher

Pictured above from left to right are: Quinn Nelson (Westside), Alex Goodman (Omaha Burke), Brianna Shaw (Omaha Burke) and Noah Yoshida (Omaha Central) showing their protein bracelets that they made in the Biomedical Research class.
Emily Kahlandt (DC West) and Cassidy Kepler (Millard South) prepare to suture bananas in pathology.

UNMC High School Alliance Alumni — We want to stay connected with you!

“Like” our page on Facebook. Email us your updated contact information. Tell us where you are attending or planning to attend college. Let us know where you are applying for professional school or where you are working.

unmchsalliance@unmc.edu

Fourth Year continued from pg 1

The fourth year of the High School Alliance includes 55 students from Omaha Public Schools, Millard Public Schools, Bellevue Public Schools, Papillion La Vista Public Schools, Council Bluffs Community Schools, Westside Community Schools, Gretna Public School, and Douglas County West Community Schools.

Students can choose among courses such as Biomedical Research, Infectious Disease, Community Health, Art and Science of Decision Making, Pathology, Genetics, Health Science Fundamentals: Patient Centered Care, or Anatomy.

In the spring semester a part-time certified high school teacher will be added to the staff.

The UNMC High School Alliance is constantly working to improve the program. While the current year is underway, we continue to develop new curriculum for 2014-2015, recruit UNMC faculty and graduate students, and prepare for the admissions process for a new class of students who are passionate about health sciences.

We are also developing new ways to evaluate the experiences that our students have throughout the program, new shadowing opportunities, new ways to build camaraderie among the students, and teaching the students the value of the professional network that they have formed by being a part of this program. We will also continue to hold annual alumni reunions.

We are looking forward to a successful fourth year of the UNMC High School Alliance program!

Infectious continued from pg 1

The students are still the most intrigued by the ‘unknown’ given to them in the lab to test their skills in identifying the organisms. The students are currently working on a research paper connected to an infectious disease outbreak that made an impact on society in the past, and working in their small groups to write a script for a skit that involves the onset and care of an infectious disease.

They are also watching the news for current events that involve infectious disease agents which they present to the whole class to keep everyone connected to the organisms that are in the community. The students have had the opportunity to tour the Clinical Microbiology Lab and are looking forward to the tour of the Bioccontainment Unit.

By: Jaynie Bird, Certified High School Teacher
UNMC High School Alliance
In Focus

Once a month, the UNMC High School Alliance features a student in the on campus publication called UNMC Today. The student for the month of September was Jesus Perez from Omaha South. The student for the month of October was Jessica Valdez from Council Bluffs Abraham Lincoln. Below you will learn more about why these students chose to be a part of the High School Alliance.

Jesus became involved in the program because he has always been drawn to the sciences. He knows that the program offers courses that mimic the caliber of introductory medical school courses and he wanted to nurture his curiosity and find new ways to solve problems. Jesus plans to become a cardiologist.

Jessica’s personal experiences with her grandmother inspired her to begin volunteering at a local hospital which eventually lead her to apply for the UNMC High School Alliance program. Jessica wants to become a pediatric physical therapist.

For Jessica, the best part about the UNMC High School Alliance is the courses that she can take. She says they are beyond anything she should experience at her home high school. For Jesus, the best part about the program has been working with the advanced microscopes and using the state-of-the-art facilities at UNMC.

Both students are enjoying their time on campus and embracing the opportunity that they have been given.

Pathology continued from pg 1

The class observes pathologic organs in the hospital morgue after learning about the pathologic mechanism of disease and interpreting virtual histological sections. These observations allow the students to make authentic connections between what they are reading about and learning about in class to the physical effects the disease has on the human body.

In class activities have included blood typing, performing injections on raw chicken thighs, and suturing bananas. The students are busy researching the disease they selected for their semester papers and presentations.

A final comprehensive exam, a research paper, and a formal presentation will mark the end of pathology in the month of December!

By: Ashlie Nelson, Certified High School Teacher

Dates to Remember

October 28: Counselor Appreciation Day
October 28: Student Shadowing
November 7-8: No School
November 19: Student Shadowing
November 27-29: No School
December 20: Last Day of Fall Semester
January 7: First Day of Spring Semester
January 13: Ice Skating
January 20: No School
January 30: Student Shadowing
February 17: No School
February 26: Student Shadowing
March 6-7: No School
March 10-14: No School Spring Break
April 7: Student Shadowing
April 28: No School
May 16: Seniors Last Day
May 23: Juniors Last Day
May 23: Recognition Day
The UNMC High School Alliance begins its fourth year.

Two field trips for the Community Health Class teaches students about public health in the Omaha metro area.

Making protein bracelets and learning about molecular biology prepare students for hands-on experiences in labs.