I am the Junior Class Representative in this gnarly lil' organization we call the Pre-Vet Club. I spent a month this summer working on a camel farm in Perth on the west coast of Australia. Every morning we got up at 7:15, rain or shine, and wrangled them into the milking parlor. Cows are docile and will stand- camels are stubborn and more of a challenge.

After a short breakfast, the training of feral camels would begin. As they have no natural predators, they have no fight-or-flight instinct and that makes them easier to work with, as compared to training a wild mustang, llama, or buffalo. Dangerous as they are, camels are quite clever and a completely wild animal with no human contact can go from zero to hero in one month with work put in every day. They are receptive to training, and are stronger than horses. They also have flat, soft feet and compact feces, both of which are very environmentally low impact. They are also browsers rather than grazers, meaning they prefer shrubbery, bushes, tall grasses, and low trees, as opposed to eating off of the ground (i.e. short grass like cows and horses). Being browsers means they are able to eat a much larger range or food, and the clefted upper lip and thick skin allows them to eat other spikier things most herbivores never even go near. Their milk has benefits over cows milk, and their fiber is incredibly warm. They make fantastic pack animals as they can eat the forage and live off the land, and carry their own body weights. The only downside is they are not as graceful as horses, which is where many an interested rider loses, well, interest.
This summer was one of the busiest summers of my life, but also one filled with amazing experiences! I juggled living in the apartment above the Fairchild Dairy Teaching and Research Center, working shifts there all week, taking physics at UNH, going home on weekends to continue my long term volunteering at Deerfield Veterinary Clinic, and conducting my senior capstone project. Every senior at UNH is required to complete a capstone experience before they graduate. This experience can essentially be anything from a class to an internship, as long as it ties into your major and the classes you have taken in your college career. Being a genetics major with a dairy management minor, I decided to combine my laboratory skills with my love of the dairy industry. Nancy Whitehouse, a UNH Research Scientist and PhD Student, gave me the opportunity to run a research project at the Keener Dairy Research Building. My capstone project consisted of a six week intensive research project funded by the French feed ingredient company, Adisseo. Many companies around the world are trying to devise ways to produce more and better quality food products to feed the ever growing human population. Specifically in the dairy industry, there are many feed supplements that are meant to improve productivity, capitalizing on the fact that methionine and lysine are considered limiting amino acids to milk production. Therefore, many companies have formulated rumen protected methionine and lysine products that have a protective layer around them to prevent degradation in the rumen of the cow. This allows the amino acids to be bioavailable later on in the digestive tract, and therefore more beneficial to the animal. We had two goals to complete in my capstone project. First, we retested the effectiveness and bioavailability of their rumen protected methionine product, Smartamine M. The second portion of the study was something that has never been analyzed before, the time points at which you collect blood samples in order to accurately observe how a product, such as Smartamine M, affects the plasma amino acid profile. Normally we collect blood samples two, four, six, and eight hours after their 5 am treatment and feeding three days every week. However, for this study, our blood sampling began at 3 pm every Monday and continued every two hours through 1 pm Thursday afternoon, including all through the night. In order to make this less stressful on our five cows, we installed jugular catheters every Monday morning and kept them in through Thursday afternoon. This study included collecting and processing jugular catheter blood, venous tail blood, milk, and feed samples. I gained valuable real life research experience this summer, as well as a new appreciation for the level of dedication and hard work that is required to be a research scientist. These are values I hope to bring with me to veterinary school!

Devan Chirgwin
Senior Genetics Major
Dairy Management Minor
I spent the summer getting up at 4 AM and working at the Fairchild Dairy Research and Learning Center, which is run by UNH and the staff is mostly composed of students. I worked hands on with over 80 dairy cows, mostly Holsteins and a few Jerseys, as well as heifers, dry cows and calves. I cleaned up after and herded the cows, helped milk them and took care of the calves. While working there, I was given the opportunity to observe numerous research studies that went on at the barn. Because of this, I was able to see a number of different treatment methods as well as milk, urine, fecal matter, and blood sampling processes. I also worked alongside veterinarians and even witnessed a cow struggle to give birth to a 120 pound calf that was stuck in the birth canal. The veterinarian helped deliver the calf but it was blue in the face and not breathing so I watched the veterinarian resuscitate the calf and save its life. Not including the very early mornings, I greatly enjoyed working at the barn this summer and learned an immeasurable amount about cows, the dairy industry, veterinarian and research work, and so much more. I even realized that my ideal career path would be a veterinarian that specializes in cows.
I spent this past summer at the Koala Research Station in Queensland, Australia to complete research funded by the Hamel Center for Undergraduate Research through a SURF Abroad. My project was on koala behavior and how it is affected by human disturbances. I travelled around the country finding wild koalas to observe often using radio-tracking technology to locate animals. I lived in Australia the whole summer and got to see a bunch of wildlife, such as kangaroos and sting rays. I even got to go scuba diving on the Great Barrier Reef! It was the experience of a lifetime.

Galina Kinsella  
Senior Biomedical Science
This past June I went to South Africa for a month with EcoLife Vets-in-the-Wild. It was the experience of a lifetime, and I strongly recommend it! I went with four other UNH students: Misha Charlat, Justina Hiney, Becca Hiltz, and Bri Stoyle. Our journey began in Pretoria. We moved around from place to place staying in guest houses, camps, and a wildlife vet’s house. We helped CLAW, an organization that provides vet care and education to communities that usually have no access to vet care, with vaccinations, heartworm prevention, and flea treatment in local villages. We saw a couple of dogs with distemper which was really sad and something we usually don’t see at home because of vaccinations. One of the camps we stayed in was the Kruger National Park where we learned what it takes to be a wildlife vet. While on drives trough the camp we saw elephants, zebras, giraffes, and even a leopard. It was amazing to see those animals in the “wild”. We visited a wildlife rehabilitation center and learned about all the animals they had there and even pet a cheetah. Yes, we got to play with lions too! Along with being able to play with younger lions we got the amazing opportunity to help with dental surgery on a lion (she was not little). I could go on for pages about the experiences we had from boats rides, game walks, shooting dart guns out of a helicopter, running through the woods trying to capture animals, and so much more. It was more than I expected the trip to be and opened my eyes up a lot about the world and how they perceive their wildlife.

Rachel Kirshkaln
Junior Biomedical Science
This summer I spent five weeks in South Africa. I spent my first three weeks volunteering at African Dawn Bird and Wildlife sanctuary just outside of Port Elizabeth. I worked with a wide variety of animals including hundreds of bird species, grysbok, meerkats, kudu, duiker, servals, wallabies, bush babies, water mongoose, squirrel monkeys, and cheetahs. My fellow volunteers and I were in charge of the daily care of the animals including feeding; socializing; maintaining safe clean enclosures and doing daily health checks. The volunteers I met there were from all over the world and were some of the most fascinating people I have ever met. I met people from Brazil, Germany, Spain, France, China, Dubai, Israel and more. In our off time we would go places such as national rugby games, the world famous surf competition held annually in Jeffery’s Bay and doing the world’s tallest bungee jump.

For my final two weeks in South Africa I volunteered on a sheep and cattle farm in Middleburg. While I was there I helped select sheep for breeding, administered oral antiparasitics to over 500 sheep and helped feed and care for hundreds of cattle. I spent one day at the Mountain Zebra National Park tracking cheetahs with a few of the game rangers. Throughout my time in South Africa I did my research for my senior honors in major thesis. I am doing research on intestinal parasites found in South Africa and performed a number of fecal floats on both the animals at the wildlife sanctuary as well as the sheep and cattle at the farm in Middleburg. I discovered a nematode parasite in a number of the farm’s sheep which the farm owner informed me is a major problem for farmers in the region. With further research into this parasite and other parasites that are potentially harmful I hope to provide the farm owner with some suggestions for more effective parasite control.
In early May of 2014 I found myself an internship at a veterinary clinic in my hometown of Danbury, Connecticut. I contacted the clinic due to great reviews and several references from family friends. Being a part of the team was truly an amazing experience. I was able to take part in appointments, surgeries and treatment throughout the day. I started off just lingering in the background observing the daily routine the clinic went through. A few weeks into my internship many of the technicians took the initiative to teach me numerous things. I learned how to draw up vaccines, set up fecals, set up for appointments, and I even was allowed to begin several appointments of my own. As for surgeries I learned how they anesthetized an animal and how to monitor them throughout surgery. Toward the end of the summer the technicians and doctors taught me how to pull blood, and let me hold open wound sites and organs during surgeries. My favorite surgeries were the exploratories. It was a time consuming procedure that required two doctors to really work together to find whatever it was a dog or cat may have gotten in to. My favorite exploratory was a bulldog who had 12 acorns stuck inside his intestines. I put a lot of time and effort into learning as much as I could as well as helping out around the clinic when they were overwhelmed with appointments and boarders. I did not want to be the average “intern” who stood around and watched what went on, I made it a point to take charge and help out clean up and even stay well after closing to help out on any last minute emergencies etc. The effort I had put into wanting to learn and help out truly paid off. One of the doctors expressed how much everyone had appreciated having me around and offered me a full time job for next summer. I could not be more thankful for the opportunity I was given this summer. It gave me such a hands on experience on what a veterinary practice is like behind closed doors. An experience I definitely would not have gotten had I ended up somewhere else. I look forward to going back as a full time associate!
This past summer I was working 40 hours a week at a non-animal related job, making animal and veterinary hours much harder to find. I began shadowing at a local clinic one day a week and got to see appointments, and watch the technicians perform treatments and watch quite a few surgeries. I also shadowed a traveling veterinary cardiologist who went to almost every clinic in Rhode Island on a weekly basis. On a single day we would visit about 10 different clinics and perform abdominal ultrasounds, echocardiograms, EKGs and occasionally I watched the vet aspirate a bladder using his portable ultrasound machine. Towards the end of the summer I also shadowed at a 24-hour animal hospital, Ocean State Veterinary Specialists, in Rhode Island. The hospital had many opportunities to learn new things from the emergency room, surgical unit, oncology area, exotics department and animal imaging, which had an x-ray machine as well as an animal CT scanner. Even though I didn’t have a lot of extra time I worked hard to spend at least one or two days a week gaining veterinary and animal hours, always keeping a notebook on me to write down the awesome things I learned.
My internship at Catoctin Zoo was nothing short of amazing. Catoctin Zoo resides an hour from my hometown in Maryland. My goal is to become a veterinarian for big cats, and so interning at a zoo was a foot in the door. Catoctin Zoo is not only a display of a vast variety of species, but also a wildlife preserve, caring for donated wildlife from homes and shelters. My responsibility at the Catoctin Zoo was to care for over 50 animals, including management of diet and healthcare. In addition to being responsible for the animals, I was in charge of the educational shows and feedings that were scheduled throughout the day. For the shows, I was responsible for researching information about the different species shown, and sharing this information with the public. Animal handling was very important, being careful that children were not hurting the animals in any way when petting the animal being shown. My favorite animal I cared for was a two-year old alligator named Marcia. The most interesting aspect of my internship was learning and being responsible for the needs each species needs to survive. I learned a vast amount about birds, reptiles, and other exotics, and this internship only strengthened my desire to become an exotic veterinarian. To further my interest in exotic animals, I plan on traveling to Africa next summer to obtain hands on experience with the wildlife of Africa, including lions and cheetahs. I am so grateful for all of the wonderful opportunities UNH offers, and I cannot wait to get started.