In this issue of our bi-annual newsletter, we have focused on the many ways that NRES students are working on sustainability, both on campus and beyond. For example, Becca Ruiz, Curt Hart, Caroline Engle, Isabel Cochran, and Sarah Barney are all members of the Student Sustainability Council. Mariah Lewis is coordinator of the EcoReps program through her position as Student Programming Coordinator in the UK Office of Sustainability. In addition to the many ways NRES students are involved in sustainability, the NRES curriculum itself has undergone a recent revision, soon to be approved, which incorporates a new Environmental Systems Emphasis Area (ESEA) in Sustainable Agriculture and Food Systems. This new ESEA will allow our students to more easily complete a minor in Sustainable Agriculture while completing the NRES major. And faculty who serve on the NRES Steering Committee, which oversees the NRES program and curriculum, are also involved in a number of sustainability initiatives. Dr. Chris Barton is President and founder of Green Forests Work, an organization that works with communities to plant hundreds of thousands of trees on mined lands throughout the Appalachian region to help rebuild a sustainable forestry economy. Drs. Mary Arthur, Jack Schieffer, Andrew Stainback, and Chris Matocha, along with Geri Philpott, participated in a weeklong workshop in 2012 called Sustainability Across the Curriculum, held at Transylvania University and co-taught by Angela Poe (NRCM ’00), Sustainability Coordinator at Transy. The purpose of the workshop was to help faculty think about various ways that courses could incorporate a sustainability angle, and led directly to the choice of last year’s senior capstone project focusing on Lexington’s urban forest. Drs. Mary Arthur and Carmen Agouridis are co-directors of the new Environment and Sustainability Living-Learning Community (LLC), nicknamed the Greenhouse, which will open its doors to first-year students in fall 2014. This new LLC, which is being developed in collaboration with the College of Arts and Sciences, will engage freshman in sustainability and environment topics and ideas through coursework, field trips, and projects. With support from the UK Student Sustainability Council, a grant from the LFUCG Stormwater Quality Projects Incentive Grant Program, and help from the Tracy Farmer Institute for Sustainability and the Environment, Drs. Carmen Agouridis and Brian Lee are building a rain garden on UK’s campus. The rain garden will likely be adopted by the Environmental Science Club and the Horticulture club, with club members providing maintenance and outreach. And Dr. Brian Lee will be leading an exciting course called Viva! Vancouver: A Global Sustainable City during summer 2014. Our campus is brimming over with opportunities to engage in building a more sustainable future. Look for ways you can be involved!

Dr. Mary Arthur
Current NRES students were asked: What environmental issue are you most passionate about? In the above collage, of their responses the size of each word is represents to the number of times the word was received in a response.

Some Costa Rican wildlife captured by NRES Senior Becca Aceto at Summer Camp: newly hatched leatherback sea turtle (left) grasshopper (center) hummingbird (right)
**What’s an Environmental Stewardship Fee?**

A look into the role of UK’s Student Sustainability Council

In 2006, UK students were asked if they would be willing to pay $6-$8 per year to promote renewable energy on campus. A majority of the students voted to adopt such a fee and in 2009, the Student Sustainability Council (SSC) was created to fulfill this request. The environmental stewardship fee is currently set at $3 per student per semester and over $100,000 is distributed by this student-led council per year. Any sustainability-related project on campus supported by a UK faculty member, staff and/or student is eligible for financial support.

Past projects supported by the SSC have included the water bottle filling stations and outdoor recycling bins seen around campus, student internships and projects, guest speakers and events such as Pedalpalooza and EarthDays in the Bluegrass. Any UK affiliate with ideas to promote sustainability on campus is encouraged to apply!

Visit the council’s website to find more information on eligibility and a copy of the proposal application: [http://www.sustainability.uky.edu/SSC](http://www.sustainability.uky.edu/SSC)

The 2013-2014 council is made up of 17 members including at-large positions and representatives from organizations around campus including five NRES students: Becca Ruiz (at-large), Curt Hart (at-large), Caroline Engle (at-large), Isabel Cochran (Green Thumb) and Sarah Barney (Environmental Science Club). Club representatives are elected into their positions by their affiliated organization while at-large memberships are available to any student on campus via an application process.

In the words of fellow NRES student, Mariah Lewis, “Go for it! Look for clubs and organizations that appeal to you, and that you might be passionate about. There are lots of outlets to get plugged into sustainability initiatives, you just have to go looking for them.”

**Do you want to get involved with sustainability initiatives in the University of Kentucky and Lexington communities?**

Contact any of these organizations for more information about how you can get involved, too!

- Green-Thumb: Email a representative at ukgreenthumbclub@gmail.com
- Environmental Science Club: Email Anna Muncy, Club President, at anna.muncy@uky.edu
- Office of Sustainability: Visit their website at [http://www.sustainability.uky.edu/](http://www.sustainability.uky.edu/)
- Student Sustainability Council: Visit their website at [http://www.sustainability.uky.edu/SSC](http://www.sustainability.uky.edu/SSC)

Caroline Engle, NRES Sophomore, petitioning with Green Thumb for renewable energy on campus
Tropical Agroecology and Sustainable Community Development in Indonesia

This past summer (2013), two NRES students, were given the opportunity to participate in a pilot study abroad program as part of the UK College of Agriculture, Food and Environment’s initiative for Indonesian collaboration. Lindsey Boone (NRES Senior) and Sarah Barney (NRES Senior) spent five weeks on the islands of Sumatra, Java and Bali where they explored the ways in which the fourth most populated country in the world meets their needs for natural resources. The program’s curriculum was based primarily on sustainable food production and community development and was unique in allowing the students to really “live like Indonesians.” During her homestay with a family in Bandarlampung, Sumatra, Sarah reflected, “The family was very friendly and hospitable but what made the experience so worthwhile was that they seldom compromised their normal way of life to try and cater to the lifestyle I’m used to.” Lindsey roomed with Sarah at this homestay and felt this experience really opened her eyes to the drastic difference in culture that exists thousands of miles away from home. With these differences in culture, though, comes a different view of natural resources.

Like other countries with rapidly growing populations, Indonesia is faced with the challenge of meeting the nutritional needs of its people on a dwindling amount of arable land. The participants compared the small, grassroots agricultural operations that were the norm in Indonesia to what they have seen of industrial agriculture in the United States. Due to urban sprawl, Indonesian farmers are forced to make more sustainable decisions for their land in order to have the highest productivity over the long term, which often means utilizing their knowledge of the ecology of the land.

Among the many topics covered, some of the students’ favorites included: the intersection between resource management and spirituality; comparing the biodiversity between community, secondary and virgin forests; the production of non-timber forest products; mangrove forest restoration; and tribal policy. Students were pushed to their limits, academically, mentally and physically, but agreed they wouldn’t trade the experience for anything!

For more information about the program, contact: Dr. Krista Jacobsen at krista.jacobsen@uky.edu
According to a national survey of energy consumption conducted by the Brookings Institution in 2005, Lexington, KY, was charged with being the city with the highest carbon footprint per capita in the country. A variety of factors contribute to this, including our reliance on coal-fired power and the use of cars as our primary means of transportation. What are other cities doing to minimize their carbon footprints? This coming summer, from May 13th to June 4th, Dr. Brian Lee, an NRES advisor and professor in the Department of Landscape Architecture, will be leading a course to discover just that. Any UK student interested in sustainability is urged to join Dr. Lee in comparing Lexington to a city that has made a commitment to be the world’s greenest city by 2020... Vancouver, Canada. When asked whether or not Dr. Lee believes they will indeed meet their lofty goals, he replied, “Who knows, but it almost doesn’t matter. They are committing.” This relatively young city is filling its urban center with green roofs, compost bins and top notch public transportation, and whether they meet their goals or not, they will be much closer to being sustainable.

Dr. Lee considers this experience to be somewhat of a facilitated independent study, in which students will be introduced to a variety of sustainability initiatives around Vancouver and their partnering school, the University of British Columbia (UBC), and then students must decide for themselves how our home looks next to theirs. The following are just a few examples of what you may expect to do while studying in Vancouver: tour a biodiversity museum, work with the city’s bike share program, take part in an ecological rehabilitation project in the city’s equivalent to Central Park, enjoy Vancouver’s diverse botanical gardens, visit an old-growth forest, and gain lots of exposure to urban planning that has focused on sustainability.

To gain prospective on what students will be seeing in Vancouver, participants will first spend a few days getting to know the ins and outs of what sustainability looks like on UK’s campus. A few days before departure, students will tour UK’s initiatives with Sustainability Coordinator, Shane Tedder. Students will then spend a day planting trees with a local reforesting nonprofit to offset the carbon footprint produced by their flight to Canada. To take it one step further, Dr. Lee has planned for carbon-minimal transportation while abroad including walking, biking and making good use of public transportation.

For more information on the program contact: Dr. Brian Lee at blee@uky.edu
This yearly event has made the planting of over 100,000 tree seedlings in the Lexington area possible. Each year a new site is chosen and volunteers get to work in an effort to reforest their city. Anyone is welcome to help plant but this event is especially interesting for NRES students as they are often chosen as group leaders. This is a great opportunity for students looking to lead groups of citizens in an environmentally-related way. The event is put on by Lexington’s Department of Environmental Quality and Public Works and usually takes place around mid-April. Be on the lookout for more information in the coming months!

First Fridays

This event is put on by the Sustainable Agriculture and Food Systems Working Group to bring together interested parties to network and learn about food in our community. On the first Friday of each month, a free locally-prepared breakfast is served around 7:30 AM at UK’s Good Barn, followed by a presentation and discussion with some affiliate of sustainable agriculture in the Kentucky community. Anyone is invited but don’t forget to bring your own coffee mug and name tag!

For more information on the next event, “like” the following link on Facebook:
https://www.facebook.com/UKAgFirstFriday

Earth Days in the Bluegrass

Be on the lookout for more information on this year’s Earth Days in the Bluegrass. This month long celebration is sponsored by the Office of Sustainability, providing daily events ranging from guest speakers, volunteer opportunities, movie screenings and much more. Earth Day 2014 is Tuesday April 22nd.

Visit this website for more information on this event: http://www.sustainability.uky.edu/edbg

Environmental Science Club

This coming Spring, the Environmental Science Club will be partnering with a team of UK organizations to pilot a rain garden program in the Lexington community, a project funded in part by the Student Sustainability Council. The Tracy Farmer Institute for Sustainability and the Environment will be coordinating the project and working with UK’s Environmental Management Department to manage the Municipal Separate Storm Sewer Systems (MS4) permit. Ag Cooperative Extension will also be a part of the team as they conduct storm water education programs across the state. Additionally, Landscape Architecture and Biosystems Engineering affiliates have designed the garden itself. The Environmental Science Club, made up of mostly NRES students, will be responsible for maintaining the above ground portions of the garden. During heavy rain events, students will monitor equipment for damage and will also take part in a biannual cleanup event. Participating club members will also work with the team to coordinate outreach events in order to educate UK students and Lexington community members on the benefits of rain gardens. The garden will be placed behind the Gluck building on South campus.
Anna Muncy, NRES/Geology Senior
President, Environmental Science Club
When asked about her experiences with the club, Anna responded, “In class I learn about issues that impact the entire planet but in the club we talk about issues that impact our city or our campus. I like saying, here’s an issue that impacts Lexington/UK, let’s see if we can do something about it. We may be productive and actually do something about the issue or we may try and fail. Either way it’s a learning experience.”

Mariah Lewis, NRES Junior
Student Programming Coordinator, Office of Sustainability
When asked about her favorite part of this position, she stated, “I love having the opportunity to teach others about sustainability-related activities. This position has shown me that I really enjoy teaching and making others passionate about something very important.” According to Mariah, “My experiences with public speaking, time management, and working in groups that I learned in my NRES classes have greatly helped my performance while working for the Office of Sustainability.”

Caroline Engle, NRES Sophomore
Housing Intern, Office of Sustainability
On the subject of residential development on campus Caroline remarked, “I have loved getting to know so many people involved in new housing at UK. Talking to so many specialists has opened my eyes to the large array of sustainability-related careers.” As a passionate activist, she believes “It’s our duty as students at this university to make it the best it can be, which means pushing our university to be good stewards of the earth in all aspects of student life.”
It’s that time of year again...where last season’s summer camp veterans get to reflect on what is often their favorite experience as an NRES student. While the regular cohort of campers was divided between Robinson Forest and Costa Rica this year, leaving only eight students in Robinson Forest, this did not stop the crew from learning lots and as always, goofing off and making lifelong friends in the process. In addition to many of the past favorite lectures including those by Dr. Pond of the EPA and Claudia Cotton with the US Forest Service, the Department of Forestry’s very own Dr. Steven Price (top left photo), added what will surely be a new favorite segment: herpetology. Students were able to locate 9 species of salamander, 5 species of snake and 2 species of frog in just one week. Other segments included identifying freshwater invertebrates, measuring stream water quality, analyzing mountaintop removal restoration sites, practicing silvicultural techniques and surveying streams with NRES Steering Committee member, Dr. Carmen Agouridis.

NRES Junior, Becca Petry, shared her favorite aspect of summer camp, “I really enjoyed getting to learn from people who work in the field. It puts what I'm studying into perspective.” With so many different topics covered over the three weeks, everyone gets to learn more about their focus areas and perhaps discover a new interest. Chase Porter, NRES Junior, enjoyed learning about forestry, as did Becca, while Alex Winsch mentioned he “enjoyed learning about stream health and wildlife's dependence on water.”

Students didn’t have to travel out of the country, like the other summer camp, to hit a few bumps in the road. This summer a storm took out the power, water and road access for 24 hours at the Robinson Forest station, but they made the best of the event and class continued the next day. Sometimes mishaps like these, and getting the van stuck in the mud, make for the greatest adventures. Students enjoyed taking the concepts they’ve learned in the classroom and applying them in the field, but most of all they made every day an adventure as they hiked, searched, measured and listened their way through the beautiful forests of eastern Kentucky.
NRE 320: Summer Camp

COSTA RICA

The NRES program’s classic summer camp was taken to a new level this summer, when Rob Paratley (bottom right photo) and Dr. Steven Price led 20 students into the tropical forests of Costa Rica. Although the organisms of study were much different than the elk, salamanders and birds at Robinson Forest, students were faced with similar ecological and conservation issues that we face here in the US. When asked what they enjoyed learning about the most, one student responded, “Learning about tropical ecology was a really awesome experience. Everything from the strangler fig trees, to the leaf cutter ants, and to the herps. I learned a lot about tropical ecology and conservation.”

For Mariah Lewis (NRES Junior), this course was more than another check off the graduation requirements. She explained, “This experience...solidified my interest in focusing on conservation biology. I enjoyed having the opportunity to save endangered species and learned that this was something I envisioned myself doing for my professional career.” Mariah was not the only student who enjoyed the conservation biology segment of the course, though. Many of the students agreed that the time they spent in Pacuare at a sea turtle conservation station was the highlight of their two week adventure. Students were given the opportunity to participate in a late night sea turtle patrol where they were lucky enough to witness an endangered species laying her eggs and protect her from potential poachers in the process. This experience, along with some of the more strenuous hikes, proved to be physically demanding for the group, but it was common to hear that these memories are also their favorite and well worth any hardship.

Natalie Redish (NRES Junior) shared how this course affected her personally, “It allowed me to gain a new perspective and respect for a different culture and how hard people work all over the world in their efforts for conservation.” If there is one thing this new program was able to do, it inspired students to gain a personal connection with conservation and for many of them inspired their goals to work in the conservation field or even abroad in the future. Of course, this group of twenty grew much closer along the way and participants agreed they wouldn’t trade their experience with after hours hikes, searching for amphibians and relaxing together in the Costa Rican sun for anything!
In only a few short months, Ciera Joye, a 2013 NRES graduate, has moved to South Carolina and begun working for the US Department of Energy at the Savannah River Site. You can find her analyzing samples in the gas chromatography lab as part of her position under the Environmental Compliance and Area Completions Projects. She enjoys both the lab and field components of her work and was excited to share, “I recently went out in the field to collect tree core samples that were then analyzed for certain compounds of interest. We can then understand the rate at which the trees are taking up these compounds.” This is just one example of the many types of analyses that Ciera works on. Others include testing stream monitoring equipment and making liquid standards for gas chromatography instruments.

The Savannah River Site was created for the production of nuclear weapons in the 1950’s and today is known for producing technological solutions to complex environmental problems. Working with scientists on state-of-the-art research has allowed Ciera to learn new things every day, something she loves about her job. “They are very open to me taking part in as many different experiences as I want and have even let me know to keep an open eye for any additional training or work that I would like to take part in,” Ciera said. The flexibility of working on different projects and the ability to always learn new things has made this job a worthwhile experience.

Ciera landed this position from none other than her previous experience at the site as part of her internship requirement, something that she thinks is important for current students to think about. When asked what kind of advice she could offer to students she replied, “…take your internship choice very seriously. I did not realize just how likely it was that my internship could turn into a longer working experience and possibly a permanent job.”

Beyond her internship experience, Ciera expressed that the wide variety of courses she took as part of her NRES degree helped prepare her for the diversity of assignments she has at her new job. She mentioned, “The variety of coursework that I took gave me the ability to pick up concepts that I have either had no experience with or limited experience with very quickly.”

Ciera reminisced on her experience as an NRES student noting the importance of the capstone course she participated in just the Spring before. She said, “It was so helpful to be put in a situation where I needed to work with other people because I am normally determined to work alone. The course really pushed me out of my comfort zone because I ended up being one of the presenters and I can’t even explain how important that has been for me. Not only was it satisfying once the final project was done, but it was a confidence booster for me when I came down to South Carolina and started working here.”

For more information on internship opportunities at the Savannah River site, visit their website: http://www.srs.gov/general/srs-home.html
Logan Derderian has had his hands full with field experience since his graduation in December of 2012. After a season of banding with the University of Southern Mississippi Migratory Bird Research Group in Louisiana he has moved on to work as a biological field technician at the Rocky Mountain Bird Observatory in Colorado.

According to Logan, a day in the life of a bird bander in Johnson's Bayou, Louisiana usually included setting up mist nets at 25 permanent locations and checking them every half hour for captured birds. Upon capturing the birds he, along with his team, would identify each one and assess their general condition, take measurements and collect feathers for use by other scientists. Lastly, Logan would band each bird with a unique number issued by the US Geological Survey. Once this seasonal position was over, Logan used online wildlife and ornithology job boards to find his current position as a field technician at the Rocky Mountain Bird Observatory.

Like many of us in the NRES program, Logan is interested in a career that keeps him outdoors. His job with the Observatory has gone above and beyond this desire; he was excited to share, “I love my current job. I hike and camp in breathtaking Rocky Mountain landscapes, waking up somewhere new every day. I go birding early each morning, crossing paths with elk, moose, martins, beavers and bears along the way. Most of the time, it has felt like a paid vacation. “

He began working at the Rocky Mountain Bird Observatory in Colorado where, Logan explained, “Each day, I navigate to a randomly selected square kilometer grid, subdivided into 16 points. At each point, I take a vegetation survey, then I listen and look for birds for six minutes. The data are extrapolated to produce population density estimates.”

When asked how his NRCM degree prepared him for his current work, Logan had a lot to say, “...I was exposed to a wide variety of environmental science disciplines that have been helpful in wildlife biology field work, although somewhat unexpected. For instance, NRE 455G Wetland Delineation prepared me for the vegetation surveys that I performed while conducting avian population surveys, NRE 355 Geographic Information Systems and Landscape Analysis, was great exposure to data management, as well as navigation using GPS and maps. Summer camp at Robinson Forest, NRE 320, was an important experience in field research techniques, a sentiment that I echoed in interviews and highlighted in my resume.”

Since his recent graduation, Logan has changed his perspective of the environmental field and offers some advice to current students. He said, “I would advise NRES students to seek out experience in their field of interest as soon as possible, even if it’s just volunteering to help with a graduate student’s research project. The job market is very competitive, so “real world” experience is essential for a chance at most paid positions. Cool wildlife field technician jobs get hundreds of applicants.”

For more information on employment opportunities at the Rocky Mountain Bird Observatory, visit their website: http://rmbo.org/v3/About_US/Employment.aspx
Academic Enrichment: Scholarships

Although many students find them daunting, scholarship applications can be less difficult than imagined and result in a huge payoff. Don’t let your fear of being rejected keep you from applying; there are simple steps you can take to make your application look competitive. Most scholarship applications require some combination of these basic documents: your transcript, a résumé, letters of recommendation and some kind of personal essay. By taking the time to create the initial pieces, you will be able to modify and reuse them to apply for a variety of opportunities. Below you will find a list of relevant scholarships due in the Spring semester, as well as some other resources to get started.

For more information on applying for scholarships:
Visit the following website for resources available to UK students, including information on how to write a résumé, request letters of recommendation and draft a personal statement:
http://www.uky.edu/academy/awards-student-resources

The Office of External Scholarships is a great place to start if you are unsure of what scholarships you are eligible for or how to put together an application. Contact, Pat Whitlow, the Director of External Scholarships, at pat.whitlow@uky.edu or visit their website to learn more: http://www.uky.edu/academy/external-scholarships

Check out these environmentally-related scholarships that are due in Spring!

<table>
<thead>
<tr>
<th>Scholarship Name</th>
<th>Application Due Date</th>
<th>Eligibility</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation of Natural Resources Scholarship</td>
<td>March 1st</td>
<td>Must be enrolled in a major related to agriculture or natural resources</td>
<td><a href="http://conservation.ky.gov/Pages/Scholarships.aspx">http://conservation.ky.gov/Pages/Scholarships.aspx</a></td>
</tr>
<tr>
<td>Thaddeus Colson and Isabelle Saalwaechter Fitzpatrick Memorial Scholarship</td>
<td>Available mid-December; due in March</td>
<td>Must be a female, enrolled in a Kentucky university, and majoring in a field related to environmental science</td>
<td><a href="http://cflouisville.org/connect/scholarships">http://cflouisville.org/connect/scholarships</a></td>
</tr>
<tr>
<td>Udall Scholarship</td>
<td>March 5th</td>
<td>Must be committed to a career related to the environment and be a sophomore or junior</td>
<td><a href="http://www.udall.gov/OurPrograms/MKUScholarship/MKUScholarship.aspx">http://www.udall.gov/OurPrograms/MKUScholarship/MKUScholarship.aspx</a></td>
</tr>
<tr>
<td>Garden Club of America</td>
<td>Variety of scholarships due in the Spring semester</td>
<td>Varies depending on the scholarship</td>
<td><a href="http://www2.gcamerica.org/outreach-scholarships.cfm">http://www2.gcamerica.org/outreach-scholarships.cfm</a></td>
</tr>
<tr>
<td>Eckenfelder Scholarship</td>
<td>April 15th</td>
<td>Must be majoring in a field related to environmental science and be a junior or senior</td>
<td><a href="http://www.brownandcaldwell.com/Scholarships.asp?id=2">http://www.brownandcaldwell.com/Scholarships.asp?id=2</a></td>
</tr>
</tbody>
</table>
Academic Enrichment: Internships & Research

NRE 395: Undergraduate Research

NRES students have the opportunity to fulfill their experiential learning requirement with a research project. This is a great experience for those students interested in pursuing graduate school or just looking for some hands-on lab and field experience. Undergraduate research often leads students to opportunities beyond the scope of their project such as presenting at regional or national conferences, publishing a scientific paper or making them more competitive for awards and scholarships.

Talk to a professor about mentoring you or visit the Office of Undergraduate Research’s website to find out more about their current opportunities:
http://www.uky.edu/academy/UGResearch

Past NRE 395 projects have included:

Karyn Loughrin worked with Dr. Andrew Stainback in the UK Department of Forestry. Karyn helped analyze survey results about different sustainable land management options around Nyungwe National Forest in Rwanda. She conducted literature research and used the Analytical Hierarchy Process (AHP) to determine relative importance of factors and categories.

Jackie Lackberg worked with the UK and Kentucky Geological Survey. Jackie participated in a research project analyzing soil volumetric water content in order to understand the fate of soluble contaminants that are released into the environment.

Evan Wesley worked on a Research Experience for Undergraduates (REU) through the University of Florida in Snapper Creek, FL. He estimated evapotranspiration for use in smart irrigation controllers. He presented his research results at the American Geophysical Union’s Fall conference in San Francisco.

Sarah Barney worked with Dr. David Westneat and his PhD student, Dan Wetzel in the UK Biology Department. Sarah studied cognitive foraging ability, as well as its relatedness to parenting ability in House Sparrows. She assisted in netting and banding birds, taking measurements, and recording trials which tested the cognition of the birds.

Can you offer an internship or career opportunity to NRES students?

UK’s NRES Program is a great source for qualified candidates! We have many eager students and recent graduates who are ready to gain hands-on experience in the natural resource and environmental fields. Contact us today, and we will post your announcement on campus and send it through our student and alumni listserv.

For more information, please contact
Dr. Mary Arthur, NRES Steering Committee Chair at marthur@uky.edu

Have you already participated in an undergraduate research project?

UK is hosting the National Conference of Undergraduate Research and wants your participation! This is a great opportunity to meet motivated students from around the country and find out about potential graduate programs. Abstracts are due December 6th! For more information, visit:
http://www.cur.org/ncur_2014/
Spring 2014 Advising

Can’t decide which classes to take next semester? Check out these electives that will satisfy your ASD and ESEA requirements!

### Environmental Systems Emphasis Area (ESEA)

#### CONSERVATION BIOLOGY

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 325</td>
<td>Introductory Ecology</td>
<td>Six sections, various times</td>
</tr>
<tr>
<td>BIO/NRE 420G</td>
<td>Taxonomy of Vascular Plants</td>
<td>MWF 10:00 - 10:50 &amp; W 1:00 - 4:50 PM</td>
</tr>
<tr>
<td>FOR 370</td>
<td>Wildlife Biology and Management</td>
<td>TR 9:30 - 10:45 AM &amp; T 2:00 - 4:50 PM</td>
</tr>
</tbody>
</table>

#### FORESTRY

No Spring courses offered.

#### HUMAN DIMENSIONS AND NATURAL RESOURCE PLANNING

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLD/SOC 420</td>
<td>Sociology of Communities</td>
<td>MWF 10:00 - 10:50 AM</td>
</tr>
<tr>
<td>CLD/SOC 340</td>
<td>Community Interaction</td>
<td>TR 5:00 - 6:15 PM</td>
</tr>
<tr>
<td>CLD/SOC 360</td>
<td>Environmental Sociology</td>
<td>TR 2:00 - 3:15 PM</td>
</tr>
<tr>
<td>FOR 470</td>
<td>Interdependent Natural Resource Issues – Analysis and Solutions</td>
<td>R 1:00 - 3:50 PM</td>
</tr>
<tr>
<td>LA 858</td>
<td>Regional Land Use Planning Systems</td>
<td>MWF 9:00 - 9:50 AM</td>
</tr>
</tbody>
</table>

#### SOIL SCIENCE

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 566</td>
<td>Soil Microbiology</td>
<td>MWF 10:00 - 10:50 AM</td>
</tr>
</tbody>
</table>

#### WATER RESOURCES

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEN 461G</td>
<td>Biometeorology</td>
<td>MW 11:00 - 11:50 AM &amp; T 2:00 - 3:50 PM</td>
</tr>
<tr>
<td>EES 585</td>
<td>Hydrogeology</td>
<td>MWF 10:00 - 10:50 AM</td>
</tr>
<tr>
<td>BAE 532/CE 542</td>
<td>Introduction to Stream Restoration</td>
<td>TR 8:00 - 9:15 AM</td>
</tr>
<tr>
<td>BIO/GEO 530</td>
<td>Biogeography and Conservation</td>
<td>TR 9:30 - 10:45 AM</td>
</tr>
<tr>
<td>GEO 230</td>
<td>Weather and Climate</td>
<td>TR 2:00 - 3:15 PM</td>
</tr>
</tbody>
</table>

#### WILDLIFE MANAGEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 304</td>
<td>Principles of Genetics</td>
<td>Eight sections, various times</td>
</tr>
<tr>
<td>BIO 325</td>
<td>Introductory Ecology</td>
<td>Six sections, various times</td>
</tr>
<tr>
<td>FOR 370</td>
<td>Wildlife Biology and Management</td>
<td>TR 9:30 - 10:45 AM &amp; T 2:00 - 4:50 PM</td>
</tr>
</tbody>
</table>

#### SUSTAINABLE AGRICULTURE & FOOD SYSTEMS

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAG 201</td>
<td>Cultural Perspectives on Sustainability</td>
<td>TR 12:30 - 1:45 PM</td>
</tr>
<tr>
<td>CLD/SOC 360</td>
<td>Environmental Sociology</td>
<td>TR 2:00 - 3:15 PM</td>
</tr>
<tr>
<td>SAG 390</td>
<td>Agroecology</td>
<td>MW 11:00 - 11:50 AM &amp; F 11:00 AM - 12:50 PM</td>
</tr>
</tbody>
</table>

#### GEOLOGICAL PROCESSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>EES 235</td>
<td>Fundamentals of Geology II</td>
<td>MW 1:00 - 2:50 PM &amp; SA 8:00 AM - 4:50 PM</td>
</tr>
<tr>
<td>EES 360</td>
<td>Mineralogy</td>
<td>MWF 9:00 - 9:50 AM &amp; T 1:00 - 3:50 PM</td>
</tr>
<tr>
<td>EES 420G</td>
<td>Structural Geology</td>
<td>MWF 11:00 - 11:50 AM &amp; F 1:00 - 3:50 PM</td>
</tr>
<tr>
<td>EES 585</td>
<td>Hydrogeology</td>
<td>MWF 10:00—10:50 AM</td>
</tr>
</tbody>
</table>
Spring 2014 Advising

Analytical Skills Development (ASD)

FIELD AND LAB ANALYSIS OF ECOSYSTEMS

BIO/NRE 420G: Taxonomy of Vascular Plants MWF 10:00 - 10:50 AM & W 1:00 - 4:50 PM

GEOSPATIAL ANALYSIS

GEO 309: Introduction to GIS MWF 11:00 - 11:50 AM or MWF 1:00 - 1:50 PM

ECONOMIC AND POLICY ANALYSIS

CLD/SOC 360: Environmental Sociology TR 2:00 - 3:15 PM
GEO 235: Environmental Management and Policy MWF 11:00 - 11:50 AM

ENVIRONMENTAL EDUCATION

NRE 390: Environmental Education W 4:00 - 6:30 PM
AED/FCS 583: Designing Curriculum and Assessment in Career and Technical Education TR 9:30—10:45
EDP 202: Human Development and Learning - Ten sections, various times
AED/FCS 671 Youth Organizations in Career and Technical Education TR 11:00 - 12:15 PM

UK Core Courses

Here are a few UK Core courses you might enjoy:

Global Dynamics
ANT 225 - Culture, Environmental, Global Issues
EGR 240 - Global Energy Issues
GEO 162 - Intro to Global Environmental Issues
PLS 103 - Plants, Soils, & People: Global Perspective
SAG 201 - Cultural Perspectives on Sustainability

Humanities
EGR 201 - Literature, Technology, & Culture

Arts and Creativity
GEO 109 - Digital Mapping

Social Sciences
LA 111 - Living on the Right Side of the Brain

New Course! NRE 390: Environmental Education

Many NRES students discover that they enjoy teaching about the environment and that these skills are desirable in today’s job market. In order to better prepare our students we have added a new class, Environmental Education, for Spring 2014 taught by Angela Poe (NRCM ’00). Ask your advisor for details!

Don’t forget these important changes when registering for Spring classes!

⇒ Seniors signing up for Capstone, you need to register for both NRE 471 Senior Problem in Natural Resources and Environmental Science AND NRE 390-001, the complementary lab.

⇒ For those interested in getting credit for AEC 445G Introduction to Resource and Environmental Economics in the Spring, an equivalent course is being offered under the name AEC 300 (Special Topics)
The following faculty are currently available for NRES student advising.

**Dr. Mary Arthur** is a Professor of Forestry. Her research addresses topics in forest ecology including forest change, prescribed fire, and invasive species.

**Dr. Chris Barton** is an Associate Professor of Forestry whose research focuses on stream restoration following disturbance such as agriculture, mining, and logging.

**Dr. Mark Coyne** is a Professor in the Plant and Soil Science Department, studies soil microbial ecology with biochemical and molecular techniques.

**Dr. Mike Lacki** is a Professor of wildlife ecology and management in the Department of Forestry. His research includes bat roosting habitats and prey-predator relationships.

**Dr. Brian Lee**, an Associate Professor of Landscape Architecture, applies geospatial analyses to watershed-based land use planning.

**Dr. Dave McNear**, an Assistant Professor of Rhizosphere Science, focuses his work on the biogeochemical processes occurring at the soil-water-plant interface.

**Dr. Chris Matocha** is a Professor in the Plant and Soil Science Department, and his research is on soil chemistry.

**Dr. Andrew Stainback** is an Assistant Professor of Forestry whose academic interests are ecosystem services, land use, and sustainable development.

**Dr. Jack Schieffer** is an Assistant Professor of Agricultural Economics. His research explores the intersection of environmental policy and agriculture and between law and economics.

**Dr. Carmen Agouridis** is an Assistant Professor in the Biosystems & Agricultural Engineering Department. Her research focuses on ecosystem restoration as it applies to impacted streams and wetlands.