Students do spend a large amount of time in formal classrooms, labs, and in two field sessions at the Cloquet Forestry Center. But they also pick up a great deal of knowledge beyond these expected settings. Tuition billings do not describe these aspects of education, but they are very important. Examples are noted below.

Many of our courses have visiting speakers and additional field experiences that take students well beyond the campus physically and intellectually. These range from specific site visits and associated problem assignments, such as in silviculture, to park sites, public and private forest ownerships, timber harvesting, and primary processing firms. These experiences also include opportunities to meet with leaders in agencies, businesses, and the legislature.

The Minnesota DNR now provides standard Wildland Firefighter Training on campus in Green Hall for four days, plus a day of field practice. That is followed by a Chain Saw Safety and Usage training course. Both offerings are practical, popular, and free of charge. More information about this opportunity can be found inside this issue.

We also assist students in finding summer jobs and internships in Minnesota and throughout the US. Virtually all students graduate with several such opportunities on their resume.

For approximately 25 percent of our students, this also includes study abroad for a three weeks to a full semester.

In addition to these often shaping opportunities, faculty provide students a transformative experience. Over four years at 4+ courses per semester, students typically experience more than 40 different instructors in diverse subject areas. Finally, they get to know and learn from many other students in their classes and beyond. Many of these personal connections truly last a lifetime. In total, these opportunities sum to a large number of lessons and learning opportunities and prepare our graduates to be highly effective.

All this makes me proud of our program and its graduates. I trust you will see examples in this issue that you can relate to as well.

Alan Ek - Professor & Head
Hubachek Wilderness Research Center

The Hubachek Wilderness Research Center (HWRC) is located near Ely, MN, fronting two lakes on the outskirts of the Boundary Waters Canoe Area Wilderness. It is a satellite station of the Cloquet Forestry Center (CFC) and a recent acquisition resulting from the U’s relationship with a generous individual. F. B. Hubachek Sr., a successful Chicago lawyer and outdoor enthusiast, established the center more than sixty years ago as a research station and to support wilderness conservation in the area that would become the Boundary Waters. Since its inception, the HWRC has hosted work on wilderness ecology, plant taxonomy, white pine blister rust, and forest ecosystem disturbances. F.B. Hubacheck developed close ties to the U of M, and mutual interests with College of Natural Resources, now incorporated within CFANS. Over the years, the Hubachek family made significant financial contributions to the U, including a series of land gifts from 2004 to 2014 that has become the current HWRC.

The generosity of the Hubachek family has also led to the creation of the F.B. Hubachek, Sr. Chair in Forestry, currently held by Professor Peter Reich. Among Peter’s research foci is an interest in how a warming climate effects plant communities in ecological transition zones. Northern Minnesota is located in a transition zone between temperate hardwood forests and boreal forests.

Both at HWRC and the CFC, researchers are continuing a globally unique open-air climate change experiment with boreal and temperate trees. Known as B4WARMED, the project seeks to answer the question of how Minnesota trees species will and are responding to a warming climate. Minnesota’s climate has already moved approximately 70 miles northward in the past 50 years, and is expected to migrate further. In the study, infrared lamps and soil heating cables are set up to experimentally warm forest plots where researchers document effects on seedling establishment, growth, and survival. Researchers hypothesize that warming will limit growth and survival of boreal species at the southern edge of their range and will enhance growth and survival of temperate tree species at the northern boundary of their range.

Peter Reich believes that the future of climate change research is trending toward addressing multiple issues within the context of multiple services our ecosystem provides. “There is also, and simultaneously, both more interest in specific applications for on-the-ground issues in Minnesota and broader, basic science questions that are targeted more at advancing the overall state of science.” He believes that nearly every topic of interest in science, prior to concern about a warming climate, will likely be influenced by climate change so that such change is an integral part of research, not only in forested ecosystems, but in all terrestrial and aquatic systems, including agriculture.

The potential for compelling research in climate change is a focus point for the new Interim Director of Operations for the CFC and HWRC, Andy David. He started in November 2015 as Director but has served as Associate Professor in forest genetics for more than fifteen years. His goals are to expand the capacity to host groups at the CFC and HWRC and grow the number and kind of research and outreach projects conducted at the experimental stations. He is looking to meet researchers in the early stages of their planning who can take advantage of our research sites in northern Minnesota forests. Andy believes the HWRC is ideally situated and equipped to be a launch point for research expeditions:

“To use the Boundary Waters as a living laboratory and to have Hubachek as either a basecamp or a jumping off point is a phenomenal concept.”

Hubachek is unique not only as a research center but as a woodsy retreat, complete with a lodge and ready access to the Boundary Waters. These tributes to the Hubachek family legacy remind us of the benefactor’s wish to be close to wild places and to protect them. “Once you see [the center], you can understand the vision of F.B. Hubachek,” said Andy.
Welcome New Faculty!

Marcella Windmuller-Campione, Ph.D.

This past July, the Department welcomed Marcella Windmuller-Campione as an Assistant Professor in Silviculture. This is an area with a long history of outstanding education and research in our program. Prior to coming to the U of M, she was finishing her doctorate in forest ecology at Utah State University where she studied the relationship between silvicultural treatments and tree resilience to damage from spruce beetles. Additionally, she is interested in forest hardiness here in Minnesota. She intends to start a project next summer with the Superior National Forest, studying if a wood product and soil additive called biochar can improve growth and survival of trees in the face of a changing environment. Specifically, she plans to study if biochar can help mitigate the effect of drought on jack pine seedlings.

In her silviculture course, Marcella is engaging students with a unique approach to lecture. “I’m trying to foster an engaged classroom, so a lot of my lectures are recorded so students listen to the lectures ahead of time outside of class,” she explained. This allows time for immediate feedback and collaboration in class as students work on assignments and group projects.

Marcella also serves as a faculty advisor for the Forestry Club. This past November, she and Assistant Professor Matt Russell accompanied seven students to the Society of American Foresters National Convention in Baton Rouge, Louisiana. Students always compete in the forestry quiz bowl competition, and have a great chance to learn about regional and national issues.

As a new faculty member, Marcella looks back on the move to the U saying, “Everyone’s been really supportive to make the transition easy.” The Department is excited to welcome her and we look forward to seeing more from Marcella regarding her research in Minnesota and her new approaches for instruction.

New Director: Joe Knight, Ph.D.

Professor Joe Knight has been named Director of the Remote Sensing & Geospatial Analysis Laboratory. Actually, Joe has been serving in this role for several months since the retirement of Professor Marvin Bauer and his move to emeritus status.

The Remote Sensing and Geospatial Analysis Laboratory (RSGAL) provides a unique and unified spatial analysis computing environment for research on spatial analysis and modeling of natural resources and environment. This site was first identified in the 1960s as the Remote Sensing Laboratory. Campus leadership in this area has been growing ever since, first under the leadership of Professor Merle Meyer with a focus on aerial photography and under Professor Marvin Bauer with a shift to remote sensing using satellite data and to geospatial analysis.

To reflect the increasingly key role of Geographic Information Systems (GIS) in teaching, research, and analysis, the lab was renamed the Remote Sensing and Geospatial Analysis Laboratory in 1988. Today, its research, development, and applications projects focus on computer-aided analysis of multispectral, lidar and radar data, including that from both aerial and satellite data. Today GIS are a source of data and classification results going into geographic databases for Internet access. The RSGAL operates a large network connecting more than 30 workstations and advanced graphics storage and capability plus wide-ranging applications software, including eCognition, ArcGIS, ERDAS Imagine, MySQL, R, and S-Plus. The RSGAL provides state-of-the-art capabilities for image processing, mapping, modeling, statistics, and visualization.

This area is growing rapidly with implications for research in informatics and with big data. Joe has indicated he will be meeting with existing and potential users over the next several months. We look forward to his leadership in this exciting area.
Student Spotlight: Melissa Lenius

Melissa Lenius is a senior in the Urban and Community Forestry specialization in the FNRM major. She transferred to the U with a diverse resume of certifications and experiences. On her route to the U, she worked as a nursing assistant, earned an Associate’s Degree at Normandale Community College, and chain sawed buckthorn and constructed rain gardens for the Minnesota Conservation Corps before landing in the Department of Forest Resources. When asked about her first impressions, Melissa said, “It’s a lot better than I thought it would be. I love it here!” After discussing her interests with a recruiter in CFANS, Melissa entered the FNRM program. She soon joined the Forestry Club and has been highly involved ever since.

Saying that Melissa is an active student is an understatement. She’s taking eighteen credits, working, conducting a directed study at Bachman’s Nursery, and serving as secretary of the Forestry Club. Her hard work pays off though, literally. Melissa has received the Davey Foundation Arbor Grant, Rene Needham Settergren Forest Resources Scholarship, and the Pearson Forest Resources Fund Scholarship, among several other awards.

Last summer, Melissa had an internship for the City of Duluth that was pivotal in shaping her interests in urban forestry. The city does not currently have an urban forester, so Melissa was given a large amount of agency and responsibility in making decisions about tree planting and management. Most notably, she drew up Duluth’s first Emerald Ash Borer Management Plan and saw it implemented. Today the city is carrying out proscriptions that were included in that plan. Outreach was also a large part of her internship and involved conducting training sessions, drafting informational pamphlets for city residents, and making house calls. After graduating, Melissa would like to work as a climbing arborist, working her way toward becoming a consulting arborist. She is grateful for the support she has received from the Department, saying “The professors, the staff, everybody here is just so welcoming. They want to help and they want to make sure that [the students] do well, make connections, and get good internships…It’s a great atmosphere to be around so many people who love what they are doing.”

Melissa’s advice for future students? “Join the club! As soon as I joined the club, I started making friends.” We look forward to seeing where Melissa’s journey takes her.

DNR Wildland Fire Course and Chainsaw Instruction

Every year the Department of Forest Resources hosts wildland fire courses taught by experts from the Minnesota Department of Natural Resources. Courses are free and take place over spring break (from March 14-18th, 2016) in Green Hall. The offering includes three individual courses with respective course numbers, Human Factors of the Fireline (L-180), Firefighter Training (S-130), and Introduction to Wildland Fire Behavior (S-190). Students gain hands-on experience learning to construct a fireline, practicing extinguishing fires, and assessing weather, topography, and fuels. They also learn about the dynamics of working on a fire team including communication responsibilities and protocol. Instructors cover materials in a classroom for the first four days, while the last day of instruction takes place at the DNR’s Carlos Avery Forestry Field Station north of the Twin Cities. Approximately forty students and twenty others participate annually. All three courses are highly recommended experience. These courses are open to both U of M students and non students, with different registration processes for both. On Saturday March 19th, following the fire courses, department faculty offer Chainsaw Safety and Usage Training. Content covers saws, maintenance, safety gear, positioning, and techniques for safe and effective bucking and felling. This classroom coverage is followed by hands-on field training at the St. Paul campus urban forestry site.

To sign up, visit z.umn.edu/DNRtraining
Club Spotlight

Look for the Forestry Club at the Tree Lot!

Members put in considerable work prior to the start of tree sales. They typically work with retired instructor Carl Vogt and owner of TEC trees, who invites students to his tree farm one hour north of the Twin Cities. There, students learn about tree production and harvesting.

Throughout the year, students can help with planting and pruning, but the busy season starts in mid-November when harvesting begins. For their work throughout the process, students earn a discount and harvest most of their trees from TEC and the remainder from Wolcyn Trees.

Bailing the trees with nylon, loading and unloading the delivery truck, and staging trees at the lot - students do it all!

Selling trees has been the student group’s main fundraiser since 1949. The club is one of the most profitable. Profits go toward funding scholarships, club events, and education trips.

Since its inception in 1907, the Forestry Club has afforded students opportunities for personal and professional growth. Financial management, technical experience and knowledge in tree production, and customer service are some of the skills that students gain from participating in tree sales, not to mention the comradery that results from long hours at the lot. Thank you to all those reading this who have participated in and supported the Forestry Club over the years!

New Editor: Laura Nelson

Greetings from your new editor Laura Nelson! In mid-November, I took over as Recruiting and Communications Coordinator for Jenna Williams. I am excited to cultivate prospective students and promote the Forest and Natural Resource Management major. As a recent graduate of the U of M, I look forward to educating prospective students on the wealth of opportunities that I was afforded at the University. After graduating, I worked as a naturalist at Eagle Bluff Environmental Learning Center in Lanesboro, MN where I taught science and outdoor adventure classes to middle schoolers. I loved witnessing students’ wonder of the natural world, especially those who had never seen stars before! After teaching nearly 400 classes there, I returned to the U and worked as a receptionist at the Office of the General Counsel. When the opportunity to return to Green Hall turned up, I could not say no. Thank you to everyone for the warm welcome. I look forward to meeting you!
Do you know any graduates, students, faculty or friends who have made considerable contributions to CFANS, the Alumni Society, and/or to their professions or society? Nominate them today for a CFANS Alumni Society Award! Awards are given to individuals who share the values of CFANS and the purpose of the Alumni Society within his or her community and beyond. This purpose is to connect students, alumni, and friends of CFANS and the U of M and develop interest in, and support for, the betterment of the college, the U, and the Alumni Association.

Nominations are due Saturday January 30th, 2016. Visit the link below to nominate and see a list of awards.

Visit z.umn.edu/ALUMawards