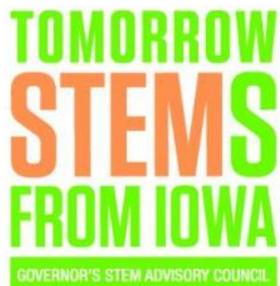


2022 Iowa STEM Teacher Externships

Extern Yearbook



Travis Angell

UNI Tallgrass Prairie Center

Cedar Falls, IA

Travis worked with the TPC staff to maintain a wide variety of native prairie plants. This work included transplanting plants from seeds grown into the greenhouse into plots on the grounds. Once the plants were in the ground, he worked with the team to weed and maintain the plants to ensure the best growth. Once these plants get to the seed stage, he collected the seed and put them into storage. Travis's duties also included going out to a variety of different prairies and collecting prairie plant seeds to maximize the diversity of the seeds within the storage.



Tallgrass Prairie
CENTER

UNIVERSITY OF NORTHERN IOWA

www.tallgrassprairiecenter.org

"There are a lot of ways I can incorporate my experience at the Tallgrass Prairie Center into my classroom. We live in a very cool world where technology allows us to be able to work and see experts from all over and not have to leave our classroom. A very simple way to continue the relationship with the TPC in my classroom is to have them lead discussions with the students."

--Travis Angell, science teacher at Waverly-Shell Rock Middle School

Barbara Bates

Cedar Falls Utilities

Cedar Falls, IA



Barb worked collaboratively in the Energy Services Department as an Educational Consultant by creating educational communications. Topics included Power vs. Energy, Passive Cooling, Benefits of Trees and Insulation, and Historical Cost of Energy. She created graphic flyers, education FAQs sheets, and hands-on educational activities. The purpose was to improve community understanding and awareness of CFU's energy production and usage.



“A career in a utilities company involves so many different people with varying skill sets. Introducing career opportunities and connecting students to people who work in different departments at the utility company is obvious. I would guess many people, let alone my students, have no idea of the diversity of employment offered here.”

--Barbara Bates, science teacher at Waverly-Shell Rock High School

Hannah Bustamante

Black Hawk County Conservation

Cedar Falls, IA



At Hartman Reserve Hannah worked with kids to teach them science through camps and activities. Her duties included helping to plan activities for ongoing camps, create new plans and activities for upcoming camps, working with kids of varying ages, and helping out around the reserve. She learned many new skills not only in terms of science, but also how to effectively teach kids new things while making it both interesting and fun at the same time!



"Hartman has done amazing things for kids and I have nothing but praise for them! I think maintaining my connection and passing that connection onto my students would do so much in terms of education and giving them and opportunity to interact with the real world."

--Hannah Bustamante, pre-service science teacher at the University of Northern Iowa

Dalton Ciavarelli

Iowa DNR at Sweet Marsh

Sumner, IA



Dalton contributed to wildlife conservation through a variety of tasks and projects. Dalton spent time pulling trees from native prairie, discing crop fields, spraying for weeds, and planting turnip plots. Many animals such as ducks, turkeys, deer, and pheasants will benefit from these food plots! Dalton has learned a plethora of knowledge this summer about different animals and plants that call Sweets Marsh home. He plans to bring this knowledge and experience back into his 6th grade science classroom to teach students how wildlife habitat management contributes to the success of the flora and fauna in the state of Iowa!



“When students have a real-world task to complete it gives them purpose. It is the teachers job to get them to the end of the task by providing necessary content along the way that the students will USE to get them the the end result which is driven by the problem at hand. It's how the real-world works; receive a problem, learn about the problem, acquire knowledge to fix the problem, finally go and fix the problem. ”

--Dalton Ciavarelli, science teacher at Denver Middle School

Anthony DiLeo

Iowa DNR at George Wyth Park

Waterloo, IA



Tony's projects included making signage, park education, and improving communication with park visitors. With increased use of technology to convey information, Tony investigated how often the QR codes are being utilized by visitors. He also translated some of the signage to help non-English speaking park users. Finally, since the park is considered an "urban wildlife sanctuary" Tony developed educational information regarding park wildlife, as well as continuing work done by a previous extern on a bird-viewing blind.



"My primary aim lately has been to get my students to "think". Period. To take the time to really think about questions and problems posed. I have tried different strategies to foster critical thinking - incorporating indirect instruction, problems, and different modes of teaching, pushing them, challenging them, and even "tricking" them. But alas, this is an ongoing hurdle for many learners"

--Tony DiLeo, science teacher at Hudson Middle School

Kelly Giesemann

MercyOne

Dubuque, IA



Kelly worked with the Clinical & Professional Development department. She observed numerous professionals & departments in order to create a digital document listing non-degree, degree, and advanced degree positions/careers within the hospital to be used at job fairs and accessible online. She also completed a nurse time study in the medical unit to gather quantitative data on how nurses spend their time.



“ In addition, the collaboration among departments is phenomenal!... In some ways, the concept of 'it takes a village' to raise a child, applies here in terms of taking care of someone's health. These are concepts that I plan to share with my students, especially those that express an interest in health care.”

--Kelly Giesemann, science teacher at Dubuque Senior High School

Bethany Hadley

Buchanan County Conservation

Hazleton, IA



During Bethany's Externship experience she is helping lead the weekly youth camps with activities such as kayaking, bird watching, fishing, crafts, and orienteering. Bethany is also learning how to conduct weekly Monarch surveys. This collected data is uploaded and used to help track the Monarch population worldwide.



"Our hosts were great to work with. They were always trying to help with ideas for our classrooms and engage us in everything we did. They also made sure we learned a new appreciation for the outdoors as we explored each day. The naturalist are always teaching whoever will listen, just like us teachers. "

--Bethany Hadley, math teacher at Oelwein Community Schools

Hannah Huggins

Iowa Department for the Blind

Des Moines, IA

Hannah's main project focused on developing accessible STEM activities and materials. The library used these activities for youth programming, outreach, and to engage patrons in their makerspace. She also assisted in the creation of informational videos for teachers about the services the library offers. Other duties that Hannah performed included supporting staff in preparing accessible educational materials to be sent out for the upcoming school year, as well as applying braille to print books to be added to the Library's collection.



"I love the idea of teaching science content through socio-scientific issues, as they really engage students more than just focusing on the specific science content alone. Focusing too much on content isn't setting students up for success, but when we integrate these skills into how we teach our content our students will make much more meaningful connections and be better prepared for their future."

--Hannah Huggins, pre-service science teacher at the University of Northern Iowa

Madyson Larson

McGregor Municipal Utilities, Allamakee-Clayton REC



At McGregor Municipal Utilities, Madyson evaluated their current solar policy and see if changes could be made and determine if it would be profitable/useful to change their maximum kW used for residential solar. She reached out to other similar-sized utility companies to see what their policies are to base her recommendations on. She also helped search for a backup generator for one of the wells, and did PR-related projects, looking at how to get the community more involved.



"I am so happy that I was able to be a part of a company that is so close to not only the school district that I teach in, but also where I live! It is crazy how much you can be oblivious to, even when you live so close! Throughout inspecting solar policies and some of the customers' average usages, I have been more aware of my own usage and what I can do to conserve some of this energy!"

--Madyson Larson, math teacher at MFL MarMac Middle School

Jennifer Merdinger

John Deere Engine Works

Waterloo, IA



Diving specifically into the different roles held in the factory, Jennifer was able to run through classes such as Diesel Engine Basics and CNC Machining to learn about what the roles entailed, what a new employee would need to learn, and how math plays a hand in the work required. Jennifer helped organize and analyze data relating to the logistics of material supply. She studied where materials are most often utilized on the factory floor and how they can be best stored to create a more efficient assembly line, increase the ease of access to necessary materials and cut down on time spent waiting for the retrieval of necessary materials.



"This year my goal is to bring several speakers into my classroom, either in person or virtually, to talk to students about what type of training and education they needed to get where they are. Many of my seniors want to go into the skilled trades but aren't always aware of the work that goes into entering that profession."

--Jennifer Merdinger,, math teacher at Wapsie Valley High School in Fairbank

Greg Moglestad

Design Mill, Inc.

Dubuque, IA



Greg worked on multiple projects that utilized advanced LIDAR technologies to create digital environments. These digital environments will then be augmented to meet customer needs. Through this experience, he has learned many new applications for technology and computer science that will be carried out in the classroom.



“Based on [my last Externship] experience I created more opportunities for students to communicate what they learned. My engineering courses switched from largely intensive summative assessments to orally communicating the engineering steps they took on every topic. Now every unit has a smaller summative test assessment paired with a presentation summative assessment.”

--Greg Moglestad, engineering and computer science teacher at Dubuque Senior High

Claire Molony

Jackson County Conservation

Maquoketa, IA



Claire's focus during her externship was to help with summer enrichment as well as prairie work through invasive species removal and wildlife surveys. Claire helped lead programs during the day for students of all ages, and also helped walk-in guests. During the day she spent time creating new exhibits, planning future activities, and taking care of the grounds which includes a 15-acre remnant prairie. She also helped restore some of Iowa's native landscape and by bringing her knowledge of instructional design to help with the programs.



"On top of the people I worked with daily, I also had the chance to meet so many other people who work in conjunction with JCC... All of these connections will help me bring back this Externship into my classroom. It will be great to have a whole wealth of people I can direct my students to if they need experts on different topics."

--Claire Molony, science teacher at Cascade High School

Stephanie Monahan

MercyOne

Dubuque, IA

Stephanie worked with the Clinical & Professional Development department. She observed numerous professionals & departments in order to create a digital document listing non-degree, degree, and advanced degree positions/careers within the hospital to be used at job fairs and accessible online. She also completed a nurse time study in the medical unit to gather quantitative data on how nurses spend their time.



“As a newcomer and non-healthcare worker, I have a different perspective than those presenting the information, and through my questions and prior knowledge, some ideas were revised because the target audience for some of the projects going on here are for the general public.”

--Stephanie Monahan, science teacher at Dubuque Senior High School

Jared Pickett

Iowa DNR at Sweet Marsh

Sumner, IA



During Jared's time with DNR's Cedar-Wapsi Wildlife Unit, he assisted in every facet of the operation. The Sweet Marsh area covers over 3,000 acres, with an aging dike system. Jared assisted with a drain down of Martens Lake in preparation for the dike rebuild. He assisted in the production of corn, millet, soybeans, and sunflowers to allow for game and non-game wildlife to refuel and potentially relocate.



"The people I'm working with are awesome and would love to see more engagement with youth. I'm planning on bringing the kids out to do duck counts in hopes the kids spur some interest in the area. Coming up with some ongoing project the kids can take part in would be an AWESOME connection to this diverse ecosystem."

--Jared Pickett, science teacher at Denver High School

Roger Poling

MercyOne

Dubuque, IA

Roger's primary project was to help develop a Marketing Plan for the Retail Pharmacy at MercyOne. This Marketing plan will be used for both Colleagues within the hospital system as well as community members to create awareness of the many services offered by the MercyOne Pharmacies. He also helped clean up contact information and their website and gathered data toward helping MercyOne better reach their intended customers.



"If we can give the students an EXPERIENCE, they will will remember this way more than just content from a book or PowerPoint. It is about the connections and relationships, not just pushing knowledge."

--Roger Poling, business and computer science teacher at Hempstead High School

Nikki Shannon

Buchanan County Conservation

Hazleton, IA



Nikki worked with the naturalists to assist with day camp programs that teach children about nature around them. Some of the topics covered were snails, animal camouflage, birds, orienteering and kayaking. She also assisted with their summer library programs that serve the surrounding communities and with various duties around the park such as gardening, setting up displays and the monarch survey.



“The more authentic and real world we make learning the more engaging and applicable it becomes to students which can help inspire that love for learning. When students work together on projects they learn about teamwork that’s needed in the workplace. When authentic real world experiences are incorporated there is a reason for the learning taking place, students see why content is necessary to know.”

--Nikki Shannon, teacher at Wapsie Valley Elementary in Fairbank

Tristan Sikkema

Innovate 120

Maquoketa, IA



Tristan worked with UX design to create and modify apps and websites. Partnering with local student and companies, Tristan provided guidance and experience as a teacher and a consumer for the groups to make their projects work. The students groups would meet with their clients to discuss their project and presented them to the companies when completed.



“The skills that the students need to do is to have communication skills and collaboration among their team members. And using many soft skills to make work successful for both the client and the students. ”

--Tristan Sikkema, computer science teacher at Easton Valley Schools in Preston

Autumn Weaver

Cedar Falls Utilities

Cedar Falls, IA



Autumn worked collaboratively in the Energy Services Department as an Educational Consultant by creating educational communications. Topics included Power vs. Energy, Passive Cooling, Benefits of Trees and Insulation, and Historical Cost of Energy. She created graphic flyers, education FAQs sheets, and hands-on educational activities. The purpose was to improve community understanding and awareness of CFU's energy production and usage.



“Providing a classroom where students are responsible for their learning, increases the ability for them to learn because the ball is in their court. I am hoping, after my externship experience, I am able to bring more real life examples and experiences to my lessons, so the students are able to see real life application and why the content applies to them.”

--Autumn Weaver, science teacher at Cedar Falls High School