Kansas State University named a Best Online College for 2021

Kansas State University has been listed as a top online program for 2021 by Intelligent.com, a trusted resource for online degree rankings and higher education planning.

Intelligent.com analyzed 87 schools, on a scale of 0 to 100, with only 60 making it to the final list for Online Colleges. The comprehensive research guide is based on an assessment of 1,280 accredited colleges and universities in the nation. Each program is evaluated based on curriculum quality, graduation rate, reputation, and post-graduate employment. The methodology also uses an algorithm which collects and analyzes multiple rankings into one score to easily compare each school.

The study notes students who pursue any one of these programs can expect to gain employment much quicker in comparison to candidates without a degree. In addition to accessibility and cost, the steady job growth in this market is one of the many reasons Intelligent.com researched and ranked the Top Online Colleges.

You can view the complete ranking at [https://www.intelligent.com/best-online-colleges/](https://www.intelligent.com/best-online-colleges/).

Study: Rising nighttime temps rob yields in rice, wheat

Warmer nights can upset a good night’s sleep for humans, but could the biological processes of farm crops be fussy about nighttime temperatures, too?

Researchers at Kansas State University and North Carolina State University think so, and they’ve got a growing amount of evidence to prove that the circadian clock genes in rice -- and possibly wheat -- get messed up when nights get hotter.

“We still don’t know all the details, but we’re narrowing down the key regulatory players,” said Colleen Doherty, an associate professor of biochemistry at North Carolina State University.

Doherty and K-State professor and crop physiologist Krishna Jagadish began studying the impact of nighttime temperatures seven years ago when Jagadish worked at the International Rice Research Institute in the Philippines.

“Essentially, we found that warmer nights throw the rice plant’s internal clock out of whack,” Doherty said.

Jagadish said warm temperatures cause “hundreds of genes” to be expressed earlier than usual, and hundreds more to be expressed later than usual. That disrupts such key biological processes as photosynthesis and respiration (a process that uses sugars produced during photosynthesis to create energy for plant growth).

In field trials with rice, Jagadish used artificial heaters in field conditions to maintain experimental plots at 2 degrees Celsius above ambient temperature, and compared samples – taken every three hours for 24
hours -- from plots that were grown at ambient temperature.

Similar studies at K-State have indicated a 5% reduction in wheat yield for each one degree Celsius increase in temperature, according to Jagadish. For wheat, he added, "these changes in grain composition under warming nights will impact both the quantity and quality of bread."

"Most people think plants aren't dynamic, but they are," Doherty said. "Plants are constantly regulating their biological processes -- gearing up for photosynthesis just before dawn, winding that down in the late afternoon, determining precisely how and where to burn their energy resources. Plants are busy, it's just difficult to observe all that activity from the outside.

"And what we learned is that the clock responsible for regulating all of that activity gets messed up when the nights get hotter relative to the days."

Doherty is currently focusing her work on rice, while Jagadish has studied the impact of nighttime temperatures on rice and wheat. "Rice and wheat behave similarly to warming nights, so progress made with one crop can benefit the other," Jagadish said.

The researchers' goal is to better identify the factors that create havoc with the plants' circadian rhythms so that scientists can breed varieties that perform better under conditions where higher nighttime temperatures are present.

"It's the high-starch cereal crops that are most vulnerable to high nighttime temperatures," Jagadish said. He and his team are currently studying the impact of nighttime temperatures on corn at K-State's north farm in Manhattan.

"Corn, for example, has very high levels of starch. We believe that with warmer nights, we will lose starch, so the grain quality and quantity of biofuel that can be generated from corn will be negatively impacted. In other words, with the varieties we have now, warmer nights could have negative impacts on both the food and biofuel industry."

In a 1,200-page report released in 2019, the United Nations linked a rise in global temperatures to increasing pressure on fertile soil, jeopardizing the world's food security. Jagadish and Doherty note that rice, wheat and other cereal crops feed hundreds of millions of people around the world.

"(Our study) is not just an interesting scientific question," Doherty said. "It's a global food security issue."

The research is supported by the USDA's National Institute of Food and Agriculture (NIFA). The researchers have published a paper that discusses their work with Warm Nights Disrupt Global Transcriptional Rhythms in Field-Grown Rice Panicles appears in the June 2021 Proceedings of the National Academy of Sciences of the United States of America, known familiarly as PNAS.

K-State team receives USGS grant to study management of harmful algae blooms affecting freshwater systems

Harmful cyanobacteria blooms, also known as cyanohABs or blue-green algae, are an emerging challenge to managing reservoirs and other freshwater systems in Kansas and across the globe because of the myriad of ecological, economic and human health issues they cause.

Shelter medicine program navigates safely through pandemic challenges

For the last six years, a large purple-and-white trailer from the Kansas State University College of Veterinary Medicine has become a common sight on highways and roadways in northeast Kansas. And while the trips made by this trailer during its first five years were mostly smooth sailing, the global coronavirus pandemic effectively presented a number of metaphorical road hazards and obstacles.
To address this concern, a Kansas State University research team is developing novel mobile monitoring platforms to better understand spatial dynamics of cyanohabits. The team will then use the data to couple mechanistic and machine-learning models to improve cyanohabits prediction.

Trisha Moore, associate professor and Peggy and Gary Edwards Cornerstone teaching scholar in the Carl and Melinda Helwig Department of Biological and Agricultural Engineering, will lead the three-year project, "Integrated data science — mechanistic modeling framework to predict cyanohabits in contrasting freshwater systems." The project has been funded for $249,746 by the U.S. Department of Interior's U.S. Geological Survey, or USGS, program.

Through collaboration with USGS water scientists, Moore and her K-State colleagues — Aleksy Sheshukov, associate professor, and Daniel Flippo, associate professor and Patrick Wilburn Keystone research scholar, both from the biological and agricultural engineering department; and Lior Shamir, associate professor and Nick Chong Keystone research faculty scholar in the computer science department — will work in bodies of water in Kansas and New York to test transferability of the models across very different freshwater systems.

"Our aim is to advance understanding of the complex environmental interactions under which cyanohabits develop and persist as well as to provide tools to help lake managers better monitor and forecast these blooms," Moore said. "Cyanohabits impact our state, national and global economies and ecosystems. This project has the potential to support both high-impact research and outreach while providing opportunities to train graduate students and engage undergraduates in research and discovery."

Health and Human Sciences dean to be next provost at Boise State

John Buckwalter, the Betty L. Tointon dean of the College of Health and Human Sciences, is leaving Kansas State University to become the next provost and vice president of academic affairs at Boise State University. Buckwalter will begin his new position in July.

"John Buckwalter has been a visionary dean who found innovative ways to move his college and our university forward," said Chuck Taber, provost and executive vice president. "We are thankful for his service to our university and know his leadership skills will be a tremendous asset in his new role."

Since becoming dean of the College of Health and Human Sciences in 2013, Buckwalter has been committed to promoting a culture of excellence within the college and creating an environment where students can access transformational educational experiences. Significant new degree programs at both the undergraduate and graduate levels have been added under Buckwalter’s leadership, including the pending physician assistant program, a satellite nursing program with Wichita State University and three bachelor’s programs in public health, integrative physiology and sports nutrition.

In 2018, Buckwalter became the holder of only the second-named deanship at K-State when he was named the Betty L. Tointon dean of the College of Health and Human Sciences.

Since first hitting the road on its maiden trip May 9, 2015, the K-State Mobile Surgery Unit has helped dozens of animal shelters and community organizations save on veterinary care costs and has drawn attention to the plight of homeless animals. The Mobile Surgery Unit has spent approximately 1,550 days and over 200,000 miles on the road over the last six years to reach the milestone of 28,000 surgeries. For each trip, students packed and loaded daily supplies in the 32-foot trailer, which sports the university’s Powercat logo and wordmark, plus the slogan "Future Vets Helping Future Pets."

"The totally unprecedented nature of providing hands-on education in an outreach program during a pandemic has been challenging," said Brad Crauer, an associate clinical professor in the College of Veterinary Medicine. "Shelter med was the first veterinary service to shut down when the pandemic hit. We felt the conservation of personal protective equipment and surgical supplies was warranted given the uncertainty early in the outbreak. But we were also one of the first services back out in the field and did so with purpose and a process in place to keep all stakeholders safe."

From March 30 to May 11, 2020, clinical rotations for veterinary students — including the shelter medicine program — were all conducted remotely but still included active learning every day. In-person rotations restarted on May 26, 2020. Elizabeth Davis, head of the College of Veterinary Medicine’s clinical sciences department, said that the shelter medicine rotation is the top clinical rotation choice of fourth-year veterinary students, with 90 students from the 100-plus member class of 2021 participating in the shelter medicine rotation.

"Shelter med is an outreach program providing surgical and medical services on-site at partner shelters," Crauer said. "When we rebooted the program after being offline for six weeks, it was very important that we not put our students or the people we serve at risk. All students — and faculty and staff — must be symptom-free and not have any known exposure. We recognized there was some risk but have worked very hard to ensure the risk was low for all that participated. We occasionally canceled trips in compliance with COVID-19 traceback and quarantine guidelines."

Crauer said there were some significant changes in procedures after the onset of the pandemic.

"Pre-COVID, students would meet with shelter leadership, tour facilities and eat lunch on site," Crauer said. "All of those activities were discontinued until recently. With our outreach vaccine and microchip clinics, the partner organization provided ‘pet runners’ who would interface with the client. This minimized any student-public contact and the potential for disease propagation in either direction."

Crauer said that the partner programs and animal shelters have worked together on developing special safety protocols.

"Just as our students, faculty and staff assess their health risk or situation each day, we ask our shelter partners to do the same," Crauer said. "They are instructed to report any illness or exposure before our departure to their facility. Shelter leadership, staff and volunteers have been very willing to participate."

Crauer said that initially, not all of the partner organizations were ready to restart their programs.
“It has been an honor of a lifetime to serve as the dean of the College of Health and Human Sciences,” Buckwalter said. "Kansas State University will always be a special place to me. All three of my children have degrees from K-State and Amalia and I have made lifelong friends here."

Buckwalter's many professional accomplishments include serving as chair of the Association of Public and Land-Grant Universities' Board on Human Sciences and being named a fellow of the American Physiological Society and the American College of Sports Medicine.

Dr. Craig Harms, professor and head of the kinesiology department in the Kansas State University College of Health and Human Sciences, will serve as interim dean of the college, effective July 11.

Harms was appointed to the position by Charles Taber, provost and executive vice president, following an internal search. Harms will serve while a national search is conducted to fill the deanship. The search is expected to begin in late August or early September, with a permanent dean hired by spring 2022.

**DID YOU KNOW?**

Wildcat 91.9, K-State’s national award-winning radio station, is the oldest, continuously running college FM radio station in the United States.

“Some organizations did not shut down at all while others discontinued services altogether and were much more conservative on reopening," Crauer said. "Just as we expected our shelter partners to respect our requirements for visits, we also had to accommodate those who were even more cautious than we were. That the process and communication were in place to properly navigate these outbreak situations shows that our system works."

The K-State Shelter Med team has even consulted with a number of other academic programs and animal welfare organizations to help them reboot and begin to get back to normal, Crauer said.

The shelter medicine program has reestablished connections to 14 active partner organizations through the pandemic and its surgical procedures surpassed 4,200 on the year, which averages approximately 40 procedures per student, per rotation. Among the communities the program regularly visits include Emporia, Junction City, Lawrence and Topeka.

In addition to the Mobile Surgery Unit, the shelter medicine program also recently acquired a community outreach vehicle called Wellness on Wheels, or WOW. It successfully completed its first trip on March 13 after more than two years of fundraising and production. WOW took part in a wellness clinic, in partnership with the Community Veterinary Outreach program, at the Metro Lutheran Ministry Mission in Kansas City, Missouri. During the visit, 25 patients owned by 18 different clients were served.

Now that pandemic restrictions have been lifted, Crauer hopes to get the shelter medicine program moving at full speed once again.

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