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KANSAS STATE UNIVERSITY | Office of Governmental Relations

Fall 2020 brings univeristy's highest retention, graduation rates

Kansas State University's fall 2020 enrollment numbers show strong progress is being made in student success, with records set for student retention and the university's four- and six-year graduation rates. Online program enrollment continues to climb as well.

Fall 2020 enrollment at Kansas State University is mirroring national and state trends related to the COVID-19 pandemic, said Karen Goos, vice provost for enrollment management. The university's overall enrollment is 20,854, down 865 students from a year ago, for a 4% drop. Enrollment on the Manhattan campus is down 6.1% in all students, with the majority of the dip in undergraduate student enrollment, which is down 6.9%.

Goos said that despite the drop, the university's strategic enrollment management efforts are showing progress in the university's recruitment efforts with a 7.5% increase in applications before the pandemic.

"Our 4% drop is much lower than expected and we know the next year will bring strong opportunities for growth," Goos said. "Our new scholarship plans also are making a difference and helping more students, with more than $46 million awarded to K-State students this academic year."

On the growth side this fall, undergraduate enrollment is up on both the Kansas State University Polytechnic and K-State Olathe campuses. Online program enrollment also jumped by 10.8%.

The most significant growth is in K-State's student retention and graduation rates. Freshman-to-sophomore retention is up 1.3% to a record 87.1%. Moreover, the student retention rate is up 7% since the university put plans in place to reach a 90% retention rate by 2025.

K-State's four-year graduation continues to climb with a 5.4% increase, while the six-year graduation rate is up 2.3% for the year to 67.5%. The six-year rate is up 11% since the university set a goal of hitting 70% by 2025.

"These increases are strong and indicate that our first-year student success programs and overall student-first approaches help keep students at K-State," said Jeannie Brown Leonard, vice provost for student success.

Because of the enrollment dip, overall student credit hours are down 5.1%, with most of the decline in undergraduate credit hours. Increasing though, by 1.3%, are graduate credit hours. K-State conferred its most doctorates ever — 211 — in the 2019-2020 academic year.

K-State mourns loss of esteemed agricultural economics professor

Barry Flinchbaugh, whose remarkable career in agricultural policy at Kansas State University spanned nearly a half-century, died Nov. 2 at Stormont Vail Hospital in Topeka. He was 78 years old.

The charismatic Flinchbaugh was well known as one of the United States' leading experts on agricultural policy and agricultural economics. For more than four decades, he was a top adviser to politicians of both major political parties, including secretaries of agriculture, chairs of the U.S. House and Senate Agriculture committees, and numerous senators and state governors.

Flinchbaugh was involved to some degree in every U.S. farm bill written since 1968, and served on many national boards, advisory groups and task forces, providing input on domestic food and agricultural policy.

He served as the chairman of the Commission on 21st Century Production Agriculture, which was authorized in the 1996 Federal Activities Inventory Reform, or FAIR, Act, also known as the Freedom to Farm Act.

"Barry Flinchbaugh will be deeply missed by many generations of the K-State family," said K-State President Richard Myers. "His expertise and vast contributions to the university, the state and agricultural economics will have a lasting impact on the world for years to come through those whom he taught and counseled. His experiences have touched the lives of many and his wonderfully feisty, thoughtful, helpful and kind personality will be his legacy forever."

"Agriculture has and always will be the backbone of Kansas' economy," said Gov. Laura Kelly said. "Dr. Flinchbaugh helped shape agriculture policy for more than a half-century. While we will miss him and his enormous contributions to our state, he leaves behind a legacy as a Kansan who improved the livelihoods of Kansas farmers, ranchers, producers — and agriculture workers across the nation."

U.S. Sen. Pat Roberts, Kansas, who worked closely with Flinchbaugh on farm bill legislation, wrote his condolences on Twitter.

"Franki and I are deeply saddened by the news of Dr. Barry Flinchbaugh's passing," Roberts said. "Dr. Flinchbaugh was nothing short of a legend in his field. His expertise made him one of the most coveted and trusted advisers for agricultural policy for decades.

"Dr. Flinchbaugh's legacy as an educator and advocate will live on through his work at K-State and his lifetime of dedication to agriculture. I will not only miss his guidance, but I will also miss his friendship, wit and humor."

Flinchbaugh grew up in York, Pennsylvania, and earned bachelor's and master's degrees from Penn State University. He earned a doctoral degree in agricultural economics from Purdue University before joining the K-State faculty in 1971.

At the time of his death, he was professor emeritus in K-State's Department of Agricultural Economics, teaching a 400-level course in agricultural policy each fall. He also served several years as chair of the Landon Lecture Patrons, who support the university's prestigious Landon Lecture Series.

A dynamic speaker, it was reported that Flinchbaugh would receive as many as 100 speaking invitations per year. He authored more than 100 publications and co-authored a textbook on agricultural policy.

K-State honored Flinchbaugh with its prestigious Outstanding Teacher Award three times during his career. It is estimated that he taught agricultural policy to more than 4,000 undergraduate students. He connected the university to hundreds of thousands of people by giving presentations to farmers, agricultural business groups and more through its extension mission.

"Our students, faculty and staff are deeply saddened by the news of the passing of Dr. Barry Flinchbaugh, and our thoughts are with the Flinchbaugh family during this challenging time," said Ernie Minton, dean of the K-State College of Agriculture and director of K-State Research and Extension. "Barry was known as the absolute authority on agricultural policy for decades. Few faculty members have had the opportunity to impact so many students and at the same time affect national agricultural policy as Dr. Flinchbaugh."

Flinchbaugh is survived in the family's Manhattan home by his wife, Cathy. Flinchbaugh's family will conduct a private family burial and plans to host a public celebration of his life sometime after the pandemic. Contributions in honor of Flinchbaugh may be made to the Flinchbaugh Scholarship Fund, the Flinchbaugh Agricultural Policy Chair, or a charity of their choice in his name.

In a statement, U.S. Sen. Jerry Moran, Kansas, said the following:

"Dr. Barry Flinchbaugh was an icon of agricultural policy in Kansas and throughout the nation. Dr. Flinchbaugh was well known for his involvement in helping craft farm bills for nearly five decades, and his authority on agriculture issues made him a trusted advisor to me and many prominent federal officials of both parties throughout his lifetime.

"More importantly, Dr. Flinchbaugh was my friend. We met when I called him more than 30 years ago to ask a question about Kansas tax policy. Ever since, I've admired and respected (loved) him. He spoke his mind, told me what he thought and made me a better senator and person. His death is a huge loss to me and all of his many friends, and it is hard to find the words to capture a man revered by so many. There may be no Kansan whose company I enjoyed more.

“Each year I would make a surprise visit to his ag policy class at K-State. His trademark sarcasm, wit and quips that made him a talented professor and a sought-after speaker was always on full display at the front of the classroom. I saw he loved and cared about his students and these feelings were mutual.

"There is no doubt Dr. Flinchbaugh's presence in ag policy will be felt for generations to come through the thousands of students he taught and mentored during his decadeslong career as a professor at K-State. His loss will be felt deeply within the ag community, and Robba and I will be praying for Dr. Flinchbaugh's family and loved ones during this time."

Watch video on Industrial Hemp Research

In the video above, Veterinarian Mike Kleinhenz talks about the industrial hemp research being conducted at the K-State College of Veterinary Medicine. So far it looks promising for use as a cattle feed stuff because of its nutritional value.

Fall 2020 Global Food Systems Seed Grants awarded

The Office of Research Development announces the results of the fall 2020 call for proposals for the Global Food Systems Seed Grant Program.

The funding is intended to support innovative research in all aspects of global food systems, with particular interest in those projects that are interdisciplinary; promote job creation and economic development in the state of Kansas; engage graduate and/or undergraduate students; and partner with industry, particularly those based in Kansas.

All proposals were peer-reviewed by faculty members with a variety of relevant expertise.

Awardees and their project titles are:

- Manreet Bhullar, horticulture and natural resources; Trevor Hefley, statistics; Terry Griffin, agricultural economics: "Application of Ultraviolet light technology to enhance the safety of agricultural water on Kansas fresh produce farms."

KSVDL processing COVID-19 tests

The Kansas State Veterinary Diagnostic Laboratory - KSVDL faculty and staff have processed more than 12,000 COVID-19 test samples since the lab started processing tests in late April. Results are typically available within one business day, which is a critical component of the university's COVID response plan. Asymptomatic testing is also available for students through Lafene Health Center.

Computer science lab director funded by NASA for space research

Spacecraft trajectory optimization is a critical aspect of space mission analysis. In recent years, NASA has shown increased interest in applying machine-learning algorithms to improve the performance of trajectory optimization solvers in preparation for a human-tended lunar orbiting platform for crews to visit from earth, to transit to and from the lunar surface, and to depart to and return from Mars.

Optimization of trajectories for spacecraft employing solar-electric propulsion requires the solution of a nonlinear, non-convex mathematical programming problem. For assistance in solving this issue, NASA has awarded $750,000 toward a joint project involving researchers at Wichita State University, Kansas State

- Michael Chao, animal sciences and industry; Ruth Welti, biology: "Exploring the potential effect of anti-phospholipase A2 antibody to extend beef shelf-life in a beef liposome model system."
- Jonathan Dessi-Olive, architecture; Richard Todd, plant pathology; Vincent Amanor-Boadu, agricultural economics: "Sustainable Development for Rural Kansas through Fungi-based Building Materials."
- Roman Pogranichniy, diagnostic medicine and pathobiology; Chad Paulk, grain science and industry; Cassandra Jones, animal sciences and industry: "Development of an in vitro assay to assess the infectivity of viruses in animal feed."
- Kathryn Reif, diagnostic medicine and pathobiology; Qing Kang, statistics; John Jaeger, K-State Research and Extension Agricultural Research Center/animal science and industry; Emily Reppert, clinical sciences: "Evaluation of anaplasmosis on commercial beef bull breeding soundness."

Awardees will be required to report on progress in six months as well as submit a final report and apply for extramural funding for the next stages of the project at the end of the funding year.

Congratulations to all awardees.

Rural Education Center receives USDA grant to expand innovative robot distance learning program

The Kansas State University College of Education's Rural Education Center recently received its largest grant in history: a telemedicine grant to support STEM education in rural and underserved communities.

The $451,480 Distance Learning and Telemedicine Grant will be administered by the Rural Utilities Service of the U.S. Department of Agriculture. It will support the center's Rural Enhancement of STEM Education through Tele-Presence, or RESET, program and purchase robots, microphones and laptops for the 20 schools in 10 Kansas school districts involved in the project. No funds will be used to support personnel salaries.

Kansas schools participating in the grant are Andale High School, **Andale**; Axtell High School, **Axtell**; Cheylin High School, **Bird City**; Buhler High School and Prairie Hills Middle School, both in **Buhler**; Garden Plain High School, **Garden Plain**; Jackson Heights High School, **Holton**; F.L. Schlagle High School, J.C. Harmon High School, Sumner Academy, Washington High School and Wyandotte High School, all in **Kansas City**; Blue Stem High School, **Leon**; Ness City High School, **Ness City**; Osage City High School and Osage City Middle School, **Osage City**; Sabetha High School and Sabetha Middle School, **Sabetha**; Troy High School, **Troy**; and Wetmore High School, **Wetmore**.

Project RESET will acquire tele-presence equipment necessary to support STEM education learning experiences in rural schools, with the Rural Education Center serving as the hub site for providing training, curriculum, instructors and additional resources to aid its partner rural schools.

University and the University of Kansas.

Investigative lead for "Artificial Intelligence-Assisted Spacecraft Trajectory Optimization and Planning" at Kansas State University is Arslan Munir, assistant professor, Michelle Munson-Serban Simu Keystone research faculty scholar and founding director of the Intelligent Systems, Computer Architecture, Analytics and Security Laboratory in the computer science department at the Carl R. Ice College of Engineering.

This project targets development of a new, machine-learning assisted-optimization tool for on-ground mission design. The automated, fast and robust nature of the proposed methodologies makes the tool suitable for onboard implementation as well.

"The plan is to develop various innovative concepts such as using dynamical coordinates in trajectory optimization, a modified-state observer to estimate unmodeled acceleration and use of an artificial neural network for adaptive tuning of planning variables," Munir said.

The proposed research will directly benefit space mission design by incorporating machine learning to reduce the sub-optimality of trajectories computed in a fast and robust manner and to capture unmodeled space environmental effects.

"Considering the increasing significance of space research in recent years," Munir said, "this project will help enable K-State to make significant contributions to a challenging problem of spacecraft trajectory optimization that is paramount for planetary exploration missions.

"It will also increase the recognition and leadership of Kansas State University in space research and will be a step forward in the direction of attaining both university and College of Engineering 2025 goals."

NSF-funded project focuses on improved security of smart devices

Smart homes, smart infrastructure, smart health and more — the list of applications embedded with sensors, software and other technologies for the purpose of connecting and exchanging data with other devices continues to drive the need for rigorous analysis of hardware and software critical to ensuring the safety and security of these systems.

The National Science Foundation Division of Computing and Communication Foundations has awarded a $250,000, three-year grant to Xiaolong Guo, assistant professor in the Mike Wiegers Department of Electrical and Computer Engineering at Kansas State University, for further research in this area.

Guo will collaborate on the project "Property-specific Hardware-oriented Formal Verification Modules for Embedded Systems" with Tuba Yavuz, assistant professor of electrical and computer engineering at the University of Florida.

Things unique to their approach include a property-directed co-model extraction and a property-specific run-time validation process to achieve scalability and precision in detecting bugs due to hardware-software

The grant expands a previous Distance Learning and Telemedicine Grant the Rural Education Center received in December 2019. The $146,031 award is similar to the new grant and involved eight rural districts and nine schools.

Both grants were written by College of Education faculty members Spencer Clark, Rural Education Center director and associate professor of curriculum and instruction, and Lori Goodson, Rural Education Center assistant director and assistant professor of curriculum and instruction. Combined, the two grants will support 29 schools in 18 districts with a total of 118 Double Robotics robots and 23 Ohmni robots.

Entering its fifth decade, the Center for Rural Education and Small Schools was renamed the Rural Education Center in Spring 2019. Approved by the Kansas Board of Regents in 1978, the center focuses on meeting the needs of rural schools in the state of Kansas.

interactions.

"If successful, the research will deliver methodologies, automation tools and system-level benchmarks that will allow vendors to detect security and safety vulnerabilities in early stages," Guo said. "Its greatest impact will be on workforce training and broadening participation in formal methods and embedded-system security."

This will primarily be achieved through courses Guo will develop and teach in the Carl R. Ice College of Engineering, outreach events and collaborations with industry.

DID YOU KNOW?

97% of recent K-State bachelor's degree graduates surveyed are employed or attending graduate school or professional programs. *K-State Career Center study 2020*

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