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**MOREHEAD STATE'S CRAFT
ACADEMY NURTURES REGION'S
"DOWN-TO-EARTH KIDS...WITH
BIG DREAMS"**

BY ROBIN ROENKER



Biomedical science major Will Casto, Wurtland, works in the Class 10,000 Clean Room in the Spacecraft Integration and Assembly Facility at the Morehead State University Space Science Center. Photo: Tim Webb





Below, Danielle Gibson, Germantown, studies in her room in Thompson Hall, the residence hall for the Craft Academy at Morehead State University. Photo: Tim Webb

THE STUDENTS ENROLLED IN THE NEW CRAFT ACADEMY for Excellence in Science and Mathematics at Morehead State University are not your average high-schoolers.

In the spring semester of his junior year, Bryce Hendrickson of Maysville took computer-aided design (CAD) classes at Morehead's Space Science Center. So, while he's only 17 years old, he already knows how to design parts for use in 3D printing and rapid prototyping, among other applications.

His classmate, Danielle Gibson, also of Mason County, is at work on a research project to launch a study on smooth muscle cells to the International Space Station next year. She and her partner, fellow Craft student Will Casto, hope the research on how the cells behave in zero gravity may ultimately lead to a better treatment for high blood pressure patients.

For Gayle Hereford of Irvine, whose parents are members of Jackson Energy Cooperative, the choice to enroll at Craft has been the best decision she's ever made. "Every day I get up and get dressed and go to class. And it's new topics and new material. And there are professors saying, 'Let's press even further and go farther,'" Hereford says. "It's such a great opportunity."



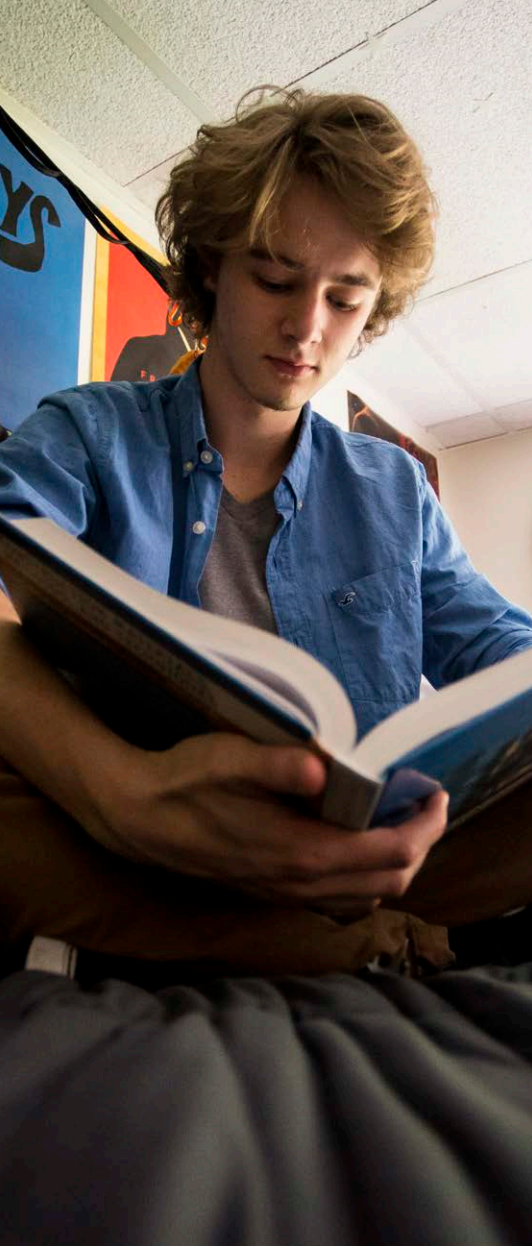
Kids with big dreams

Like the Gatton Academy of Mathematics and Science at Western Kentucky University, Morehead's new Craft Academy allows academically exceptional Kentucky high school students the chance to finish their last two years of high school on a college campus, while earning two years of college credits tuition-free. Launched last August, the Craft Academy is supported by a \$4 million gift from businessman and Kentucky native Joe Craft and \$2.8 million in state funds.

Only 17 states offer similar university-based residential high school programs, and Kentucky is the only state that offers more than one, according to Dr. Carol Christian, Craft's director.

The addition of a program to the eastern Kentucky region offers exceptional students there "more access, opportunity, and options" says

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Bryce Hendrickson, Maysville, studies in his room in Craft Academy's Thompson Hall. At the age of 17, Bryce already knows how to design parts for use in 3D printing and rapid prototyping. Photo: Tim Webb

CRAFT ACADEMY>> Christian, who noted that before Craft's inception, some talented eastern Kentucky students may have hesitated to apply to Gatton or accept an offer there, simply due to the campus' distance from their homes and families.

Christian doesn't consider Craft in competition with Gatton, but rather celebrates the fact that together they will be able to impact twice as many talented Kentucky students each year. Still, she notes that Craft's emphasis on STEM (science, technology, engineering, and math) disciplines,

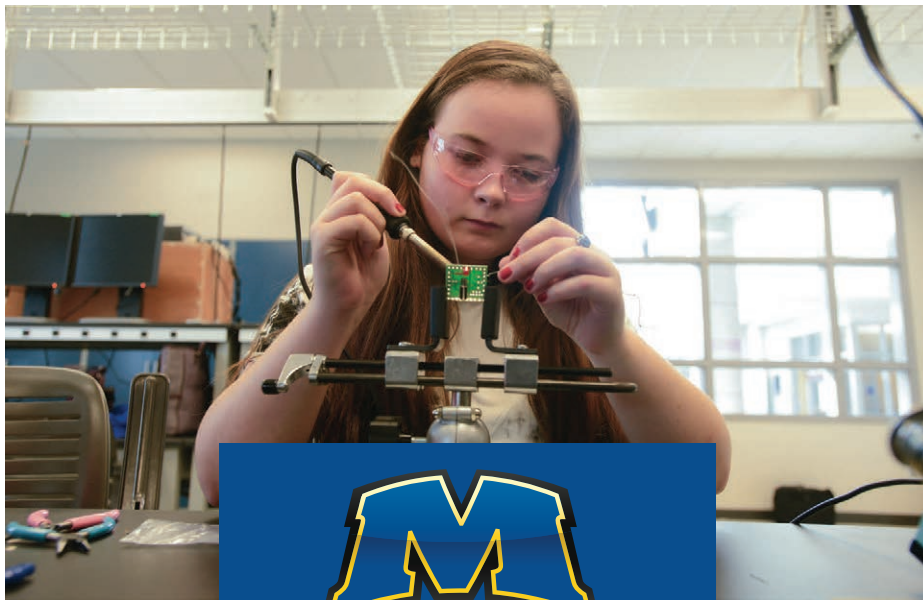
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Bryce Hendrickson holds a CXBN2 cosmic x-ray background nanosatellite that was constructed in the Morehead State University Space Science Center and is scheduled to be launched later this year. Photo: Tim Webb

as well as its “plus-X component”—the term Craft uses for its integrated goals of entrepreneurship and innovation, creativity and design, and civic and regional engagement—help to differentiate Morehead’s program.

“We have created a brand at Craft,” Christian says. “Our tagline is ‘Imagine, Invent, and Impact Kentucky.’ We stress to our students, whatever you imagine, whatever you invent, think how you can come back and bring your intellectual gifts to impact the economic development of Kentucky.”

Craft accepts 60 students—30 boys and 30 girls—each year. When they apply as sophomores, students submit essays explaining why they want to attend Craft for their junior and senior years. Many students allude to being drawn to the program because it’s a place where their high-level intellectual curiosity would be celebrated, rather than mocked. The inaugural class includes five National Merit semifinalists.

“Our Kentucky high schools are doing a great job. But these kids are outliers, and our schools only have so

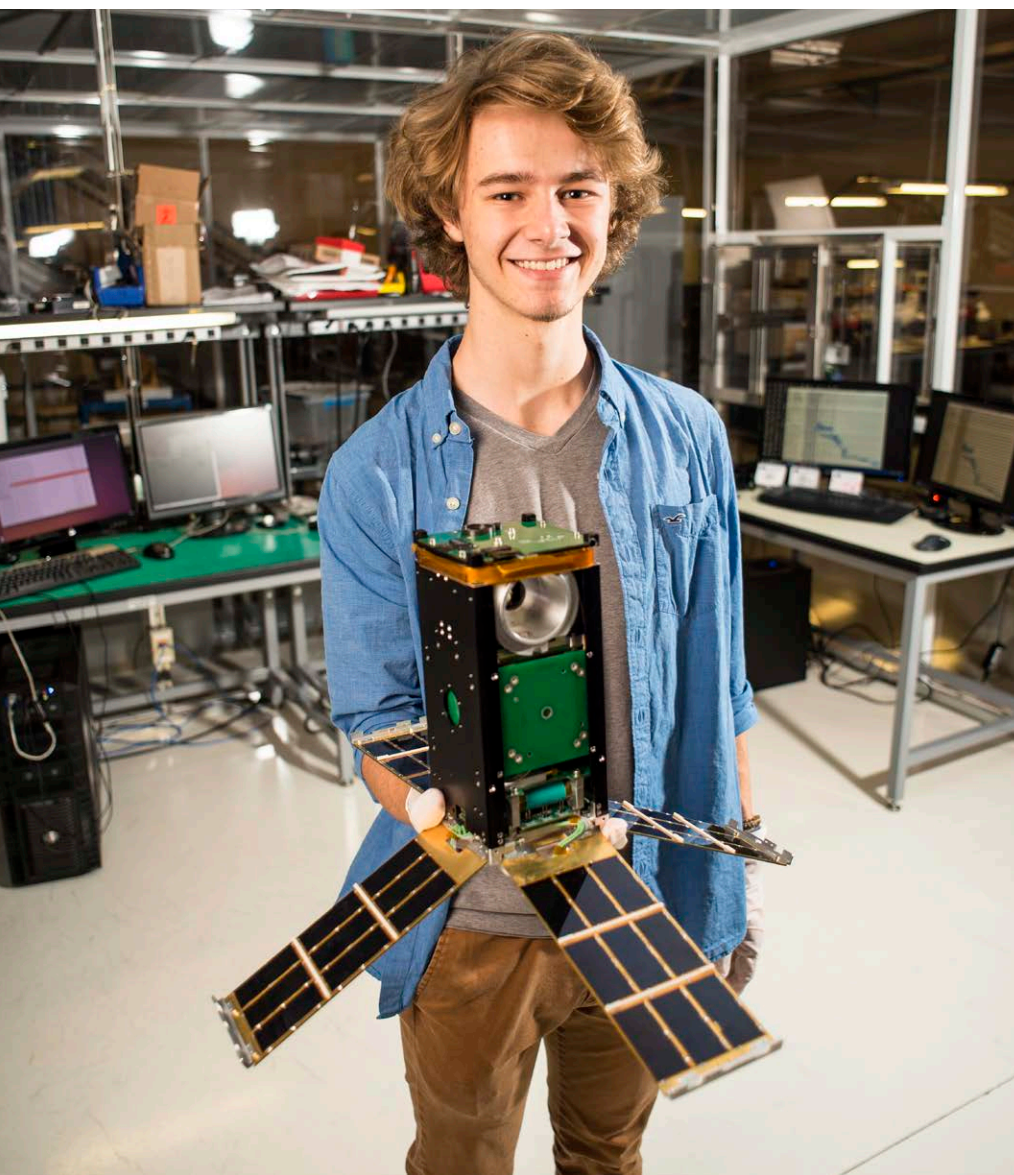
many resources.

Most students are sitting at the lunch tables thinking about what the Kardashians are doing, or what to do after the game on Friday night. But these kids are trying to find the cure to Alzheimer’s, start a business, or invent something,” Christian says. “Their minds are just so beyond the norm, and many times, these gifted students by the time they are a junior, or definitely a senior, they are just dying on the vine” in a traditional high school setting.

Life on campus

At Craft, students attend Morehead State’s college-level classes alongside traditional-aged students. Though they’re two years younger than many of their fellow students, they’re excelling: at the end of the first semester of the program, 83 percent of Craft students had a grade point average of 3.0 or above, and 12 of the 60 students had a 4.0.

Craft students are eligible to participate in all college activities, save intercollegiate athletic teams





Craft Academy students Danielle Gibson, left, and Will Casto, right, work with Assistant Director for Academic Services Jennifer Carter in the Morehead State University Space Science Center. Photo: Tim Webb

and Greek life. Craft also offers students a study-abroad experience. Since most first-year students are just 16 or 17, they do have a nightly curfew and mandatory study sessions, and they all live together in a single residence hall, where support staff are on hand to help them with their transition to college-level coursework.

“Craft Academy students are incredibly creative, innovative, and tenacious,” says Jen Carter, the Academy’s assistant director of Academic Services and a Clark Energy member. “They are outstanding problem-solvers and entrepreneurs. Mostly, they are down-to-earth kids, but with big dreams.”

Molly Meek of Louisa said the Craft Academy has allowed her son, Jeremy Webb, to “finally get to learn with people who are like him, who have the same drive and ambition that he does.” After finishing college, Webb plans to pursue two

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MARK HARRELL

Developing the work force of the future EKPC promotes STEM education through SOAR partnership

East Kentucky Power Cooperative is helping lead the charge on an initiative to bring STEM curricula to 30 eastern Kentucky counties that are part of the Shaping Our Appalachian Region, or SOAR, program. It's an effort that will eventually help establish "the nation's largest STEM-based work force," says Brad Thomas, EKPC's associate manager of Economic Development, shown above.

In partnership with Project Lead The Way, the nation's leading provider of K-12 STEM educational programs, EKPC's SOAR-STEM initiative will bring a "transformational change" to the region, Thomas says. "Everybody's talked about developing a STEM-based work force, but nobody has really done that. This project is about showing how education done in the proper way can change the economic standing of an area."

Launched in 2014, SOAR-STEM has already brought enhanced STEM-based curricula to more than 18,000 students, with a goal of eventually reaching 100,000 students across 30 eastern Kentucky

counties, says Rodney Hitch, EKPC's Economic Development manager, who along with Thomas has been instrumental in the initiative's development.

The targeted counties are those in the SOAR coverage area that have been the hardest hit by the declining coal industry, Thomas says. "You've got some areas where the child poverty rate is actually above 54 percent. The numbers help tell the story that we have to do something now. We cannot wait. This is not going to be a quick win, but we do believe this is going to be a win."

A recurrent theme in Thomas' message: eastern Kentucky kids deserve a chance to shine.

"Knowledge and skill sets are not defined by zip codes," he explains. "These are some of the brightest kids in our state that just have to be given the opportunity to excel. And we really see SOAR-STEM as an opportunity to start shining the lights on them."

The broad-based initiative features a multifaceted approach that simultaneously introduces PLTW STEM cur-

ricula within eastern Kentucky's K-12 schools; offers teachers in the region advanced teacher preparation, including National Board Certification training and PLTW STEM certification; and establishes mentorships with industry and corporate partners, including Kentucky-based companies like Qk4 and Interapt, so that students in eastern Kentucky can begin to envision the array of careers available to workers skilled in STEM. Currently, 100 selected eastern Kentucky teachers are enrolled in this specialized training program, with a goal of expanding it to 3,000 in the SOAR region and eventually across the entire state.

"This work is crucial to the future work force and the future of not only the SOAR region, but the entire commonwealth," says Mark Harrell, who oversees Project Lead The Way's school engagement efforts in Kentucky and Tennessee. PLTW curricula help students "develop a strong foundation in math and science and build their critical and creative thinking, problem solving, and communication and collaboration skills. These are vital,

no matter the field a student chooses to pursue," he says.

Along with other recent advancements in the region—among them, efforts to bring broadband internet to the area and establishment of the STEM-focused Craft Academy at Morehead State—organizers feel SOAR-STEM's work is essential to improving eastern Kentucky's future.

"We can build roads. We can put broadband in. We can do all those things that should be done," says Hitch. "But we must also provide a highly skilled, highly trained work force in order to compete in the global market."

Thanks to the efforts of EKPC and its SOAR-STEM partners, eastern Kentucky is developing the work force of the future.

"SOAR-STEM is creating a work force with valuable knowledge and skills, one that can transform the eastern Kentucky region for generations to come," says Anthony "Tony" Campbell, EKPC's CEO. "We're proud to have a role in bringing all the partners together to make that happen."

Some members of Craft Academy's inaugural class on ribbon-cutting day last August with founder Joe Craft, center, second row from top, and, in the front row, left to right, State Rep. Rocky Adkins; Dr. Carol Christian, director; MSU President Wayne Andrews; and State Sen. Robert Stivers. Photo: Craft Academy

doctorate degrees in particle physics and quantum mechanics. Thanks to a Craft Academy-organized trip this summer, he's getting to check off an item on his life's bucket list: visiting the European Organization for Nuclear Research (CERN) near Geneva, Switzerland, home of the world's largest particle accelerator.

Students in the Craft Academy's inaugural class say the decision to get a jump-start on their college coursework was



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Craft Academy students Will Casto and Danielle Gibson work in the biochemistry lab with Dr. Craig Tuerk on an enzyme induced pigment synthesis experiment, in Lappin Hall at Morehead State University. Photo: Tim Webb

easy: “When an opportunity like this comes along, you just have to take it,” Hendrickson says.

Gibson agrees: “Even though my parents may have been a little worried about having me on a college campus away from them at 16, really, everyone here, the students, faculty, and staff, have all been really welcoming and willing to work with us on everything.”

The launch of the Craft Academy represents an understanding on the part of Kentucky’s leaders that “if you want to advance the economic development of Kentucky, you invest in kids and education,” Christian says. “You invest in your best and your brightest.” **KL**

CRAFT ACADEMY ADMISSION REQUIREMENTS

- The online application process for the Craft Academy class of 2019 begins August 1, 2016. Applications are due by February 1, 2017. Sixty students—30 boys and 30 girls—will be selected.
- Only current high school sophomores who are Kentucky residents may apply.
- Applicants must score a minimum of 18 in English, 22 in reading, and 22 in math on the ACT.
- For students accepted to the program, the cost of tuition, room, and a meal plan are covered by the Academy.