

Business Hours

Monday: 1:00 pm - 8:00 pm
 Tuesday: 1:00 pm - 8:00 pm
 Wednesday: 1:00 pm - 8:00 pm
 Thursday: 1:00 pm - 8:00 pm
 Friday: 1:00 pm - 5:00 pm
 Saturday: 9:00 am - 1:00 pm

Contact

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 Tim Haynes, Lab Manager
 Jim Correll, Director

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TEDxICC April 29 at Memorial Hall from 9:00 to 3:00. Cover Story

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April 29, 2016

ICC First Kansas Community College Awarded TEDx Event
 April 29th, Rethinking Tomorrow
CLICK HERE for more information!



www.indycc.edu



Visit www.indycc.edu/tedxicc for more information and for tickets

TED^x Comes to ICC

What is this “TED”, and who the heck is TED? TED is an organization whose name is an acronym for **Technology, Entertainment and Design**. According to TED.com it was started in 1984 as a conference to cover a myriad of topics - from science to business to global issues. The TED organization is devoted to spreading ideas in short talks of 18 minutes or less. Today, it’s popularity has grown tremendously and you will hear it referred to as TED Talks where speakers come from all over the world to present their topics of interest.

The TEDx program is similar to TED on a smaller scale, run independently to share ideas in communities around the world. TEDx was created in the spirit of TED’s mission “ideas worth spreading,” but the difference is it is supported by independent organizers, such as ICC, who want to create a TED-like event in their own community.

According to Jim Correll, Director of Fab Lab ICC, there was discussion a few years ago around Innovation Summit planning to have a TEDx at ICC, but it did not materialize until now. “The impetus we needed was with Konye Ori, Communications instructor, who had experience with the TEDx Program. With his expertise, we were able to apply for a TEDx event at ICC and get approved. I believe we are the second (aside from KSU) in the state to have a TEDx event. It is a big deal for a community the size of Independence,” said Correll.

Continued on Page 2

TEDx (continued from page 1)

The event will be held on Friday, April 29, 2016 from 9:00 to 3:00 p.m. at Memorial Hall, 410 N. Penn Ave., Independence, KS

Thirteen speakers are in the lineup:

Presenter	Topic
Braidon Beard	When a Poor Man Looks in the Mirror
Monica McCarthy	Philosophy: The Life Hack of the Future
Nurali Mammedov	A Broadening Abroad - An International Prerequisites
Ralph Richardson	The One Health Movement: Animals, Environment, and Us
David Weaver	The American Story is Changing.. In Real Time
Jon Bachuro	Entre-Pre-Neurology: Cultivating the Entrepreneurial Species
David Cash	Personalized Learning - Crushing the Bell Schedule
Rodney Walker	Rethinking Social Emotional Trauma and its Devastating Impact on Education
Diana Kander	Creating Value: How Not to be Replaced by a Robot
Vibhavari Jani	Rethinking future rehabilitation for wounded warriors
Robert Liitan	The economic benefits of K-12 reform
Deji Akinbade	Be the Verb, Not the Noun
Dave Trabert	Rethinking Education Tomorrow starts with understanding outcomes today.

Purchase tickets online at www.indycc.edu/tedxicc



Where's the **MANAGER**

Tim Haynes
Fab Lab Manager

The day-in, day-out tasks of managing a community college-based Fab Lab are many, diverse, and ongoing. The laser engraver just went down. Someone broke a bit on the CNC router. We are out of consumables for the CNC plasma cutter. Admissions and recruiting just showed up with 10 high schoolers on a campus tour. A new member has arrived for their first Fab Lab experience, and they want to be taught all of the machines before closing time today. A long-standing member wants to work quietly alone, but needs a refresher on how to run the software and make the machine go (so basically everything). These stories are not exaggerated, but they seldom happen at the same time. I can't always answer a question, except by asking another question. I can't always give the tours. I am learning to ask for help when I need it and to demand excellence of myself and our work study employees, while still accepting hard work and best effort. At times, when no other employees are around, I rely on the kindness of our members to fix a machine, learn a new software tool, and keep the Fab Lab growing. It is that ecosystem of collaboration and community support that has gotten us this far, and it will be a critical component of any future success. As Fab Lab ICC grows, so must our volunteer base, our constituency, and our community outreach efforts. Within these stories, there are many different ideas



Zion middle school students watch laser engraver

Business Owner Utilizes Fab Lab to Create Outdoor Sign

Brian Hight, Magnolia Scents by Design



Brian Hight measures the aluminum sheet as part of laying out the sign letters. With a basic understanding of computers it didn't take Brian long to learn the plasma-cam software to cut the design for his new "Magnolia Scents by Design" sign.

People who know Brian Hight, Cherryvale native now calling Independence home, would not say he has a self-confidence problem. Brian, along with partner Ryan McDiarmid, have learned self-confidence and self-reliance in the eight years since opening Magnolia Health and Home early in 2008, the year of the great recession. Their experience of providing customers with a positive experience has culminated in the opening of their second store in Greenville, SC in October of 2014.



Yet, Brian speaks of the sense of empowerment he felt after his first Fab Lab ICC experience. When Brian and Ryan, changed the name of their flagship downtown Independence store to Magnolia Scents by Design—to match the Greenville store—they wrestled with how to update their exterior sign without breaking the bank. They worked out a design plan which called to retain the existing “background” oval and colors while replacing the magnolia flower and lettering with aluminum.

Brian came to Fab Lab ICC with design plan in mind and worked out the layout and content details. In an afternoon or two of work and \$47 worth of aluminum, Brian created the new sign content. He and Ryan rented a scissor lift to install the new flower and letters themselves thus saving a few thousand dollars.

After finishing his undergraduate degree in business Brian went to work for a hotel chain based in Wichita. He climbed the corporate ladder quickly, but he soon realized all the hard work and enduring corporate politics would only benefit someone else. In 2006 he moved back to Independence and with partner Ryan McDiarmid, purchased a large house on Park Avenue with the idea of opening a bed and breakfast. In the meantime, he and Ryan also enrolled in the Successful Entrepreneur Program at ICC after Brian began to realize that while his business degree provided good background information, it didn't include the knowledge needed to own his own company. After making Christmas candles for family members in 2006 and 2007, people started asking to buy candles to give to others. After that side business grew to the point of overtaking the house with inventory, the two rented their Penn Ave. location early in 2008. Brian sought equity financial investment in 2013 and opened their second store in Greenville SC in October of 2014. Brian fully expects to have stores all over the country with “home base” always being Independence.

Brian used his Fab Lab ICC membership to create his own business solution to update his exterior sign. He not only saved a substantial amount of money but the experience has added to his self-confidence.



From the **Director's Chair**
 Jim Correll
What We Would Do With
\$500,000

will want to know why we are becoming so busy and how our current conditions have come about in such a short time. A single phrase, used by psychologists, can be used to explain the phenomenon... self-efficacy.

After the first year and one-half of operating Fab Lab ICC, seeing the remarkably positive effects the Fab Lab experience has on people of all walks and in all stages of life, Tim and I would like to share what we would do if we had \$500,000. The \$500,000 project would involve building an additional facility of 8,000 square feet either attached to or adjoining the existing Innovation Design Center (formerly Cessna Learning Center) on the main campus of Independence Community College.

The new facility will free space in our existing facility to alleviate the current crowded conditions that have come from the heavy usage we now experience on a daily basis. We are seeing increased use from all categories of users; community members, ICC students, area high school student classes and groups, Greenbush (educational cooperative) and several of our area public and private middle schools are bringing students to the Fab Lab now and most are asking to use the facility more frequently in the future.

Many people, especially those that have yet to experience Fab Lab ICC

World-renowned Stanford University psychologist Albert Bandura has defined self-efficacy as one's belief in one's ability to succeed in specific situations or accomplish a task. One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges.

We would add that the major change in one's approach to goals, tasks and challenges applies to all aspects of life; personal, academic, professional and even spiritual. In the past 18 months, we've seen first-hand, how the Fab Lab experience increases self-efficacy in all kinds of Fab Lab users.

- "Jerry", a highly functioning autistic young man of 20 years, went from the frustration of shredding paper 5-hours daily to the joy of learning to make things in the digital Fab Lab environment. He also learned about entrepreneurial thinking. He is now studying computer technology with a goal of having his own computer and network repair business.
- "Henry", with Down's Syndrome, loves being in and around the Fab Lab. (There's something "electric" about our environment.) Henry's friend, Jerry, helps make things that Henry dreams up and we saw the amazing effect on Henry when we put a drill in his hands—probably for the first time in his life—and helped him drill the holes needed for his project.
- Charlotte, an active grandmother, as she progressed from the statement of "I just don't know if I can learn to use this equipment..." to making 60 personalized etched glasses for her granddaughter's wedding rehearsal dinner. Charlotte uses Fab Lab ICC on a regular basis now.
- Dozens of gifted students pursuing their wild and complicated projects and prototypes generated in their own minds.
- Students, coaches and staff members of Independence Community College learning to print banners, make lockers and signage and all kinds of other projects at a fraction of the cost of purchasing them on the outside. We see the self-efficacy of our institution growing right along with the individuals.
- A small group of 10 and 11 year old boys in our first Fab Lab boot camp learn, for the first time in their young lives, that "failure" is the best method for great learning and that "failure" should not be avoided, but welcomed as a way to learn lessons in life in the quickest and most permanent manner.
- Adults who have thought of themselves as "not creative", have sparks of creativity come to life with each visit to the Fab Lab.

Hugo's Industrial Supplies Donates Commercial Printer



Lisa and Corey Hugo (left) with Fab Lab director, Jim Correll and the new Mutoh printer.

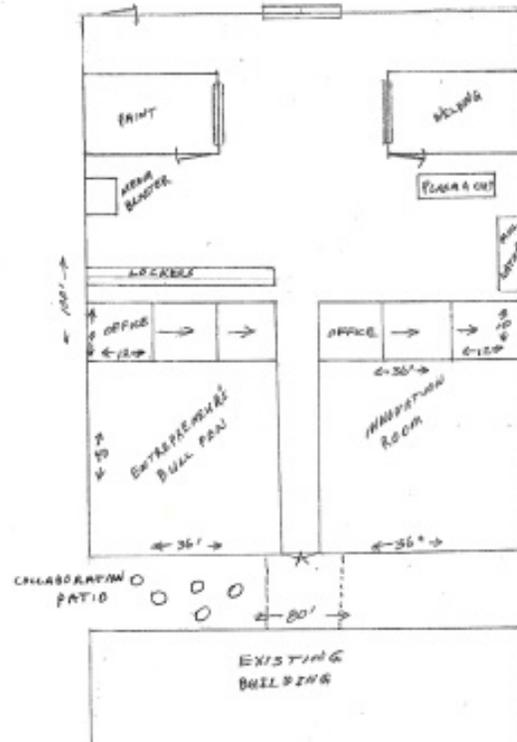
The Fab Lab ICC recently received a generous donation from Hugo's Industrial Supply in the form of a 48 inch industrial printer.

The new printer is a Mutoh, large format printer with a built-in contour vinyl cutter. This printer allows the Fab Lab to produce large custom-shaped print jobs. The printer uses all the common media plus an exterior vinyl, which means producing exterior banners a possibility.

“Donations by community members such as this one from the Hugo’s are very helpful in keeping everything current, up and running,” said Jim Correll, Fab Lab director. “We strive to keep the Fab Lab at ICC state-of-the-art and still keep the experience at a very affordable price.”

Hugo's Industrial Supply is a staple in Independence, Kansas. The family-owned business sells cleaning, office and packaging supplies. Hugo's also serves as a FedEx Authorized Shipping Center.

Director's Chair (continued from page 4)



Rough sketch of Fab Lab Expansion Vision

- Entrepreneurs creating prototypes in a few weeks instead of a few years and for a few hundred dollars instead of a few thousands of dollars.
- Neodesha high school students that designed a new bicycle attachment for an engineering contest that printed a precision prototype at Fab Lab ICC.

It's becoming clear to us that not only will the Fab Lab ICC experience boost individual self-efficacy, but collectively, through shared experiences, organizations, schools, and indeed the communities will also experience growth in self-efficacy (i.e. pride) and that growth in community self-efficacy will lead to growth in local and area economies.

Our vision is to have the resources to begin construction assimilated by June 30 of this year. We realize this is a bold vision, but we have a plan to bring everything together. We'd love to share our plan with those interested in knowing how we're going to "pull this off". Please contact us at info@fablabicc.org or 620-332-5618 to learn more.

Where's the Manager *(continued from page 2)*

about the functions and purposes of the Fab Lab. Within these stories, our users (members) view the Fab Lab as a resource of virtually limitless supply, from which they can extract knowledge, skill, access, and really awesome projects. Those particular users are often disappointed to realize that we can't always give them exactly what they want. For other users, the Fab Lab is a commons, where the resources are the people, ideas, time, and effort. We serve both kinds of members. We are a Fab Lab for all people, of all backgrounds, of all skill sets, and all interests. It's up to the Fab Lab staff to create an atmosphere that is welcoming to all types of makers and their ideas, while providing enough learning opportunities across many levels of skills and experience. Consistently accomplishing those tasks is difficult to do. Some days are easier than others. During times of heavy traffic, I may jump between a first-time computer user with decades of professional woodworking experience, and a pre-teen computer whiz who can't identify a Phillips screwdriver from a flathead. The challenge is for me to sympathize with both of those users, and to understand where they're coming from, and what they want the Fab Lab to do for them. Indeed, the Fab Lab can serve both of those users, and it must. As the Fab Lab manager, I bridge the connection between the place, and the people. My job is to represent the best of the Fab Lab, which can sometimes mean encouraging novices who lack confidence, and mentoring hotshots who may be a bit too confident. Most of our machines can be felled by a single errant keystroke, poorly-timed mouse click, or an incorrect switch flip. However, fortunately (or unfortunately), most of the user-error maintenance has been by my own hand, while learning the hard way how to use these machines. That is the Fab Lab way.

Even on the difficult days, there isn't a place I would rather work. There is enough activity in the Fab Lab to keep me as busy as I want, and that activity is so varied that I cannot get caught doing one thing all day. If I am, I probably shouldn't be. I enjoy feeling that wherever I am in the Fab Lab, I can help someone with a project. I'd rather a Fab Lab full of makers working independently and occasionally asking questions, than a classroom full of bright students all learning the same theoretical content and confidently performing the same experiments as their colleagues from previous semesters. After all, "If it isn't unique, why even bother?" – Tim Vogelei, Tubeless Solutions.

ELE-FAB



This Fab-ulous 3D cardboard sculpture was made by the FabKids at the Fab Lab in Barcelona, Spain.

The concept of the design of the Ele-Fab was to create a 3D puzzle that would be numbered and assembled by the kids. In order to create this elephant, a digital mesh was downloaded from the internet and adjusted to create a triangulated self-supporting structure of 95 pieces. - See more at: <http://fablabbcn.org/2013/10/29/elefab.html#sthash.N7IbhTtJ.dpuf>

Fab Lab ICC is interested in making this as a summer project. The thought is to have students participate during the summer months. The end product would become part of the Fab Lab and be on display in the lobby, or outside, depending on what material is used.

If you would be interested in participating or helping to start a FabKids at ICC, please contact us.

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HIGHSCHOOL STUDENTS BUILD BIPED ROBOT

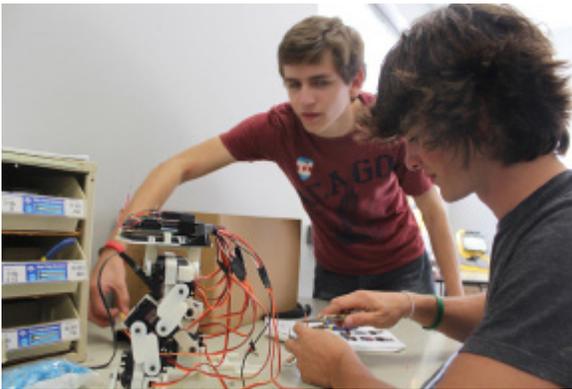


Area youth are building the latest in autonomous walking robots. A co-educational team of four area students have spent hours constructing the two-legged machine over the course of two weeks at the Fab Lab Independence Community College as a part of their summer Upward Bound program, whose goal is to help prepare first generation high school students for the rigors of college life.

“With an engineering background and experience with robotics in the Air Force, I realize the importance of scientific, technology, engineering and mathematics for our youth as a part of keeping our society viable to solve tomorrow’s problems. These students self-selected themselves among their peers to work on this challenging project that promotes critical thinking, rapid innovation and teamwork”, explained Andrew Roberts, age 29, robotics group facilitator.

The students did not have to do all the work as much of blueprints were already available. The design for “ROFI”, short for Robot Five as the fifth iteration of projectbiped.org’s open design, is freely available on the internet. With funding available through Upward Bound and the underwriting and volunteer efforts of the Fab Lab ICC community, the team is currently working to complete the electronics which uses a contemporary processing platform called Arduino and which is integrated with a small Android tablet mounted to ROFI’s head. The structural parts for ROFI were printed using the industrial production “3D printer” available at Fab Lab ICC and uses a sensor array composed of an ultrasonic range finder for obstacle avoidance.

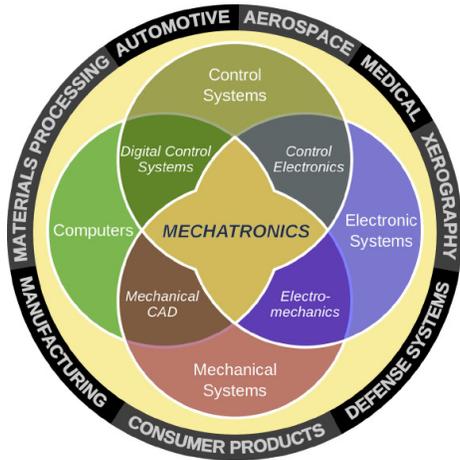
“[I like] the openness of doing what we want”, voiced team member Jaden Roggow, Sedan, KS, when asked about what he liked about this particular project and environment.



Jaden Roggow, left, and Levi Lowe have made numerous trips from Sedan to Fab Lab ICC to finish work on Rofi. Both are students at Sedan High School. Jaden was introduced to the Rofi project during last summer’s Upward Bound “Summer Fest” at ICC.

Mr. Roberts’ philosophy to such “discovery” projects is to ask questions and give the team space to figure things out on their own while filling “knowledge gaps” when discovered. He is currently trying to organize a Career Exploring Post located within the auspices of Fab Lab ICC as a co-educational program for high school and junior college aged youth to experience different aspects of the science and technology career fields. Teams of 4-5 students would be mentored by local professionals in two month “sprints” whereby they worked on challenging technology projects. If interested in serving as a mentoring adult with technology credentials or being able to sponsor a “sprint team” for \$500, please contact Mr. Roberts by email at roberts.andrew.j@gmail.com.

Fab Lab ICC is an effort by local citizens to teach everyone from young to old how to think with an “entrepreneur mindset” and enable its members to bring their ideas to life through a vast array of prototyping and production equipment. The Fab Lab movement was born about by Massachusetts’s Institute of Technology’s “Center for Bits and Atoms” and the ICC chapter is nearing its one year anniversary of operation.



A DIFFERENT Kind of Conference

By Jim Correll, Director Fab Lab ICC

Tim Haynes and I were privileged to attend the 2016 USA Fab Lab Network (USFLN) Symposium from March 21 through 23 in Bentonville Arkansas. We presented at a break-out session and also participated in two panel discussions before the entire group.

This symposium was quite a bit different than what I have come to expect from business and academic conferences over the years. Here are a couple of the most surprising differences.

- Fab Labs in the USFLN have not had the opportunity to notice how much the Fab Lab experience helps mentally and physically challenged individuals. In all sessions, we talked about Jake and Kevin (see my “Director’s Chair” article) and “Thomas”. These three young men have had challenges all their lives in finding their place in our world. The Fab Lab experience has had a profound effect on them; their advocates say the effects are life-changing in ways that are truly astounding.
- We learned that there are several areas of the country with red-hot regional economies. They are all developing ecosystems that support innovation and entrepreneurship. The community colleges in these areas are moving to Career and Technical Education (CTE) models that combine disciplines in diverse skill areas such as machining, robotics and electronics. They are combining these models with the Fab Lab maker experience to give students the flexible skills to thrive in the future economy. One such model is called Mechatronics . These ecosystems are attracting people and businesses to these areas.



Kevin loves coming to Fab Lab ICC.

We’ll continue to work with “makers” of all ages and in all walks and stages of life. We’ll also work to steer our area toward the economic development strategies we see working so well in other parts of the country.

Although Mechatronics is a trade name for a specific set of disciplines, we’re interested in the idea that engineering technology training should be centered around mechanics, electronics and robotics and other disciplines, rather than the “tunnel vision” of the technical training of the past.



Lab Manager Tim Haynes helps Kevin use a drill, perhaps the first time in his life.