# RANKEN

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# BUILDING A 21st CENTURY WORKFORCE



# 2016-2017 Annual Report







# Building a 21st Century Workforce



rom expanding efforts to draw teens into STEM (science, technology, engineering, math) careers to creating innovative business and community training partnerships, Ranken Technical College has garnered a national reputation for educating the next generation of workers so that they are job-ready upon graduation.

This past year, we were honored to receive the **2016 Education Innovator Award** from the Missouri Chamber of Commerce and Industry. We also were named the nation's **2016 Tech School of the Year** by *Tomorrow's Tech* magazine.

Innovation (a.k.a. promoting technical careers) at Ranken comes in many forms:

• First – by sparking interest among teachers and students. We start by offering annual education workshops for area teachers so that they can learn how to integrate STEM-related activities in their classrooms. For eight years, Ranken has offered popular youth

- summer camps to encourage teens to consider technical careers as rewarding and challenging alternatives to four-year degree programs.
- Second by enhancing our commitment to affordable education with scholarships, college credits, paid internships, and dual enrollment, all of which help offset the cost of tuition. Our nationally recognized microenterprise program brings businesses on campus to not only provide paying jobs for students, but also to offer them realworld experience.
- Third by partnering with communities and employers to meet the growing demands for skilled workers, working with them to open new satellite locations, and customizing curriculum that rotates students through hands-on training in the classroom and on-the-job internships.

## Launching a New Manufacturing Corridor in North St. Louis

ow we are embarking on a plan to take industry partnerships to a new level. This fall, thanks to a \$2.3 million economic development grant, we are expanding our microenterprises program by building a new manufacturing facility adjacent to our main campus.

That facility, which we call Manufacturing, Inc., will house manufacturing and production for several companies whose work programs will employ and train Ranken students onsite. Once it is up and running, we hope the facility sparks renewed growth that leads to further development of a manufacturing and technical corridor in north St. Louis.

# Department of Commerce Awards \$2.35 Million to Ranken to Build New Manufacturing Facility

anken is bringing manufacturing back in a BIG way to north St. Louis. In August 2017, Ranken was awarded a \$2.35 million economic development grant from the U.S. Department of Commerce to build a manufacturing incubator



called *Manufacturing, Inc.* The 26,000 square-foot facility, to be constructed adjacent to the main campus, will house a growing number of Ranken's successful microenterprises.

Microenterprises serve as "reverse apprenticeships," and enable companies to bring actual product lines onto campus and partner with Ranken to hire and train students to do the work. The College currently has 10 microenterprises, two of which started this summer.

Together, the microenterprises have generated an estimated \$4 million worth of products and services for the companies already involved.

Manufacturing, Inc. will be dedicated to developing new or expanding existing microenterprises. It will accommodate businesses of all sizes – from start-ups to industry leaders – and help to grow the manufacturing capacity of participating partners. It also will establish a strong, lasting pipeline of skilled talent to fuel economic activity region-wide.

More than 100 students will have the opportunity to work in these microenterprises. Students in Ranken's architectural technology and construction technology programs already have been asked to help design and build the new incubator.

Below: Architectural rendering of Ranken's Manufacturing, Inc.

Inset: Current site at Finney and Pendleton Ave.



"I look forward to seeing how Ranken Technical College will help budding manufacturers establish their businesses and train the next generation of workers to support the local economy."

Wilbur Ross, U.S. Secretary of Commerce

Left: Ranken students Ben Medhane and Brian Pauley drill electrical panels during their first week on the job with one of Ranken's newest microenterprises, Emerson Process Management.



# A Microenterprise Success: bioMÉRIEUX

anken established its first microenterprise with medical electronic equipment manufacturer bioMérieux, Inc. in 2010. Working together on design and workflow issues, Ranken re-created one of bioMérieux's production cells on campus. The two also established strict measures for quality control, testing, and on-time delivery of products made. Students are required to maintain quality assurance documentation in accordance with ISO standards.

"The cell at Ranken is considered to be an extension of our production facility," says Ray Kowalskey, Director of Manufacturing. "We have implemented a physical layout, process instructions, quality systems, and test procedures to mirror those at the bioMérieux plant in Hazelwood." To date, more than 100 students have worked in the microenterprise and earned both college credit and pay while assembling seven (7) different sub-components.

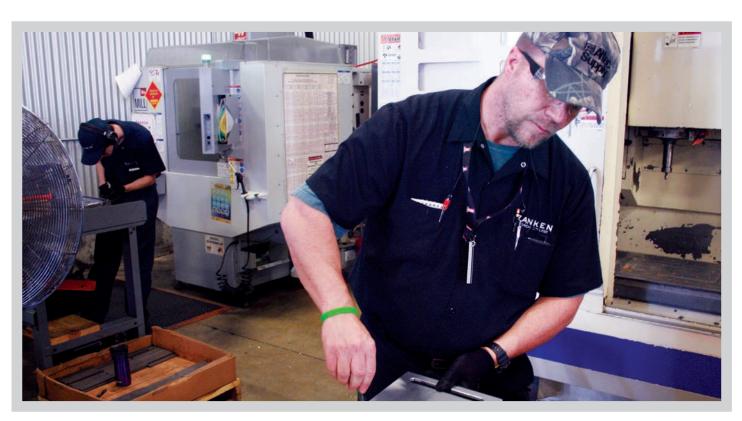
#### A typical student can work 15 hours per week in a microenterprise and earn \$10 per hour in addition to college credit.

Adds Kowalskey, "The partnership we have with Ranken provides quality sub-components for our instruments and has produced talented graduates that we have added to our team."



Ranken student Lindsey Ewing tests medical electronic equipment while working in bioMérieux's microenterprise program.

# A Proven Formula: Integrated Work-Based Learning Program = Workforce-Ready Graduates



Brian Fever (foreground) and Coulter Tilton work in an apprenticeship with Hunter Engineering while enrolled as students in the Advanced Manufacturing Technology program at Ranken Wentzville.

learning in the right locations, as an agile response to evolving market needs.

The focus is on forming lasting partnerships with local industries and community leaders, talking with these stakeholders to identify skilled jobs that need trained workers and then customizing curricula to regional workforce needs. We then immerse businesses

he key to Ranken's success is its winning

formula for providing integrated work-based

need trained workers and then customizing curricula to regional workforce needs. We then immerse businesses directly into the program and rotate students through hands-on training in the classroom and apprenticeships on an actual job site. These training programs, typically arranged in 4- or 8-week cycles, are a win-win for students who earn wages while they learn, and for employers who can cost-effectively train and evaluate potential employees.

Ranken first integrated work-based learning into its Automotive Division. The concept was expanded to include Precision Machining Technology. At Ranken Wentzville, 23 area companies now participate as part of the Advanced Manufacturing Technology program. Partnering companies are located not only in Wentzville, but also in surrounding communities, including Fenton, O'Fallon, Marthasville, St. Charles, St. Peters, Moscow Mills, Earth City, Chesterfield, Maryland Heights, Hazelwood, Washington, and Wright City. This year, at Ranken Perryville, a work-training partnership was established at TG Missouri for the Industrial Engineering Technology Program.

# **Engaging Employers in Innovative Partnerships**

Tech Manufacturing was one of the first companies to become involved in the Advanced Manufacturing program at Wentzville. "Ranken's training for pre-graduates and graduates is excellent and provides tremendous benefits to our continuous improvement program", says Jerry Halley, Tech Manufacturing's Chief Engineer. "We currently have two interns and six full-time employees from the Wentzville campus. Two of them already have been promoted as NC Program trouble shooters by virtue of their excellent performance."

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# A Growing Industry Partnership:

# TG Missouri + Ranken Perryville

G Missouri is the largest employer in Perryville, MO. The automotive products manufacturer has 10 plants on its 246-acre campus and employs 1,600 full-time and 200 temporary workers. Despite having openings for well-paying skilled jobs, however, TG Missouri, like many manufacturers, has found that there are not enough technical workers in the community to fill its needs.

"We are at an extremely critical time in that we cannot fill the positions we have open," says Fred Ducharme, TG Missouri's Senior General Manager. "We look to Ranken to help us boost our skilled trade needs."

TG Missouri was part of a group of local businesses and community leaders that approached Ranken last year about options to train skilled workers in their area. The result, only months later, was the opening of Ranken Perryville and the start of a new integrated work-based learning program called Industrial Engineering Technology (IET).

"They'll learn maintenance and troubleshooting of automated systems and manufacturing machines and come away with a wide range of skills such as working with hydraulics or process controls, all of which fit into the needs of our maintenance groups," says Ducharme.

TG Missouri has enthusiastically embraced the idea of integrating classroom training and worksite internships for the new degree program. It has offered the use of one of its own buildings to open a Ranken technical educational facility, making it even more convenient for TG staff to update skills in information technology or obtain a commercial driver's license (CDL).

In August, the U.S. Department of Labor approved the Ranken Perryville Industrial Engineering Technology (IET) training program as an officially recognized apprenticeship. Upon completion, students receive a certification from the Department of Labor as well as earn national credentials from the National Industry of Metalworking Skills (NIMS).

This year, 12 students were selected for the IET program, with TG Missouri paying their entire tuition.

The slots were highly competitive, with almost 70 applicants for the first two rounds and even more waiting to apply for the next round. This past spring, the company offered a full scholarship to a local high school

student enrolling in the program, the first of many regional scholarships planned.

"The appeal is that we pay them an hourly wage when they are training in our plant and pay their entire education costs, including tuition and the tools they need," states Ducharme. "In return for that investment in their education, they will work for us for a minimum of three years after they graduate."

TG Missouri is committed to making the program a success. It has assigned mentors to each student and works directly with Ranken instructors to refine the core curriculum.

IET students diagnose hydraulic problems during hands-on training at Ranken Perryville.





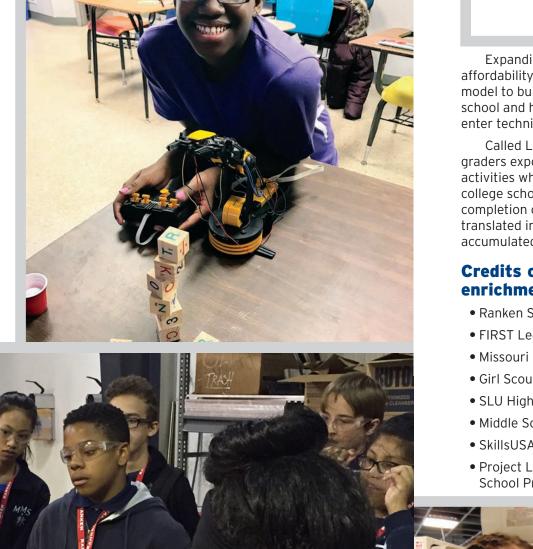
# **LEARN 2 Earn:** Improving Access & Affordability of **STEM** Careers

ver the next five years, Ranken Technical College has committed to increasing student access to a technical education by identifying innovative ways to improve affordability. Last year, the College announced its ACCESS Ranken Campaign, committing more than \$10 million within this time period to providing scholarship funds to help students pay for the cost of a technical degree program.

#### Affordable access comes in many forms:

- Dual enrollment for high school seniors
- A diverse array of scholarship funds
- Internships and paid work experiences that help offset the cost of tuition
- Opportunities to earn scholarship "credits" by participating in STEM activities (see Learn 2 Earn next page)
- Youth programs that support at-risk teens and young adults
- Onsite and online continuing education and professional certification programs
- Three regional educational facilities strategically positioned in areas with shortages of technical workers (Perryville, St. Louis, Wentzville)





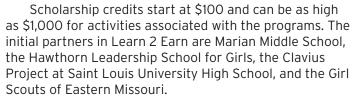


Expanding on its commitment to access and affordability, Ranken has developed a potential statewide model to build awareness and provide incentives to middle school and high school students to encourage them to enter technical career pathways.

Called Learn 2 Earn, the program gives 6th - 12th graders exposure to numerous informal STEM-related activities where they not only have fun, but also earn college scholarship "credits" for participation and completion of a program or activity. Those credits are translated into varying dollar amounts, which can be accumulated and redeemable at Ranken Technical College.

#### Credits can be earned by enrolling in enrichment programs such as:

- Ranken Summer Adventure Academies
- FIRST Lego League, FIRST Tech Challenge
- Missouri SuperMileage Challenge



Learn 2 Earn has been designed as a pilot program and Ranken hopes other colleges will follow suit and offer similar scholarship credits, thereby creating a statewide network of students, teachers, and mentors. And much like the College's efforts to spark a manufacturing resurgence in St. Louis, it also hopes to generate an upsurge in the number of teens – including young women and minorities - that are engaged in STEM and inspired to pursue a technical career path.

To learn more visit learn2earn.ranken.edu.







# **Sparking A Robotics Revolution:**

# Ranken & The Clavius Project

eff Pitts, Ranken's chairman of the board, is anything but retired. The former senior plant manager of Anheuser-Busch in St. Louis is one of the lead parent volunteers for The Clavius Project, a collaborative effort begun by students, faculty and staff at Saint Louis University High School to mentor middle school students in robotics and coding. Since it began working with nine inner-city schools in 2014, the program has rapidly expanded to include 34 schools, 600+ participants and mentors from six area high schools.

At its core are robotics-savvy high school students who eagerly mentor middle schoolers and work with teachers to incorporate fun, hands-on STEM curricula. Free robotics kits and software are provided to each school. This summer, The Clavius Project offered an EV3 Robotics STEM Academy for Educators at Ranken and paid for scholarships for more than 50 students to attend Ranken's Summer Adventure Academy camps. In turn, Ranken sponsors teams that participate in Clavius' annual robotics jamboree.

With Ranken's Learn 2 Earn program just kicking off, The Clavius Project (through one of its primary benefactors, the Berges Family Foundation) has earmarked funds so that Clavius students can enroll in designated programs and earn scholarship credits to attend Ranken.

"There are 5.6 million jobs unfilled in this country. Eighty percent of them are STEM-skilled related. Ranken is the answer."

Jeff Pitts, Chairman, Ranken Board of Trustees



Student mentor Robbie Esswein (left) assists Jeff Pitts, Ranken's chairman of the board, as he leads a STEM program for educators focused on robotics programming.

#### **PROFILES IN LEARNING**

# **Workforce Development:**

# Mississippi Lime

or more than a decade, Mississippi Lime has worked with Ranken Technical College to build and enhance the skills of the workforce at its Ste. Genevieve facility.

"We recognized back then that we had an aging workforce," says Bob Roth, Human Resources Manager for Mississippi Lime. "We found that 55-60 percent of our skilled maintenance staff was over the age of 50. Technology was getting more complex, our skilled workforce was on the verge of retirement, and we needed to find and train more employees."

Through an innovative apprenticeship program, Mississippi Lime sends employees to St. Louis for hands-on training in industrial technology, including courses in electrical systems and instrumentation. Employees who qualify for the apprenticeship attend school at night, with Mississippi Lime paying for tuition, books, and travel expenses to and from St. Louis. During the day, employees work for the company, getting paid while also satisfying a course requirement of 5,500 hours of on-the-job training before obtaining a degree. It's a demanding schedule.

"I wanted to do it to better myself and better my position," says Landon Palmer, a former bricklayer and one of approximately 40 employees who have participated in the program to date. "I frankly wouldn't have been able to further my education without Mississippi Lime helping with all of the costs."

Employees make a five-year commitment to remain with the company following graduation. Hourly salaries start at \$22-\$23 an hour, with graduates making \$50,000+ as they advance in the company.

Joe Roth has been through the program twice, completing his industrial technology coursework before moving on to an electrical apprenticeship. "I was a mechanic and welder and have been with the company for six years. After I finish this second program, I'll be able to fix electrical and instrumentation problems at the plant."

Says Bob Roth, "Our Ranken graduates have all of the technical skills to do what needs to be done, and they have the added benefit of having a strong work ethic, which Ranken requires as part of its curriculum. I think that instills pride and commitment to a lifelong career."

With the opening of Ranken's Perryville location earlier this year, Roth says there is a lot of excitement building across the entire company. "Perryville is so much closer to our own community so we're already anticipating partnering with Ranken on a program at that location in the near future."



# STEMFOCUS

# **Engaging the Future Workforce**

anken's mission since its founding has been to fill the region's critical need for skilled technical workers; however, the challenge in recent years has been to enroll enough students to fill these positions. For the past five years, Ranken has been hosting creative, fun, and stimulating programs to nurture interest in science, technology, engineering and math in order to draw students and young adults into promising and rewarding technical career fields.

This summer, Ranken received a **\$826,000** grant from the National Science Foundation (NSF) to fund programs that encourage teens to consider STEM career pathways. It is the second time Ranken has been awarded an NSF Advanced Technical Education (ATE) grant to support STEM initiatives. These programs include: handson summer camps for middle and high school youth, workshops for educators, STEM outreach activities, robotics events as well as internships and dual enrollment opportunities. Ranken's STEM efforts are helping to "prime the pipeline" for our future skilled-workforce by engaging student interest early and enabling them to earn accelerated college credits while still in high school.

#### **Summer Adventure Career Academies**

Total enrollment since 2012: 1,802

**2017:** 24 week-long camps offered (majority at full capacity with wait lists)

434 students enrolled

#### 2 two-week camps offered (Essential Info Tech Skills & Missouri SuperMileage)

#### 15 students enrolled

Taught by Ranken faculty, industry experts, and secondary teachers involved in STEM

Specific programs designed for girls to encourage exploration of STEM careers

NEW! Two more satellite locations: TechShop and Academy of Racing Science

NEW! Special summer camp for Boys Scouts NEW! Scholarship credits offered through the Learn 2 Earn Initiative



Ranken's new Boy Scout camp earned high marks for hands-on skills training.

#### Ranken's New Boy Scout Camp



Tapping into organizations that encourage teamwork and educational, hands-on fun, Ranken Technical College held its first Boy Scout Camp at the end of May. The three-day program was filled to capacity and enabled scouts to earn Plumbing,

Woodwork and Electronics Merit Badges by working with Ranken faculty on various projects. The Scouts also spent time researching career opportunities in each field.

"The Boy Scout camp was excellent! It far exceeded my expectations. My son said this was, by far, the best merit badge camp he's ever attended."

Deborah Conover, parent

#### **PROFILES IN LEARNING**

## STEMFOCUS

# Why It Matters: Priming the Workforce Pipeline

n two years, Marcus Wiley will gain nine different skill sets on his way to earning an associate's degree in industrial technology. When he completes the program, he will be a multi-specialist, with training in hydraulics, welding, plumbing, carpentry, electrical, heating/ventilation/air conditioning/refrigeration (HVACR), and facilities maintenance.

The 18-year-old enrolled full-time at Ranken this summer after participating in the College's annual Summer Adventure Academies and dual enrolling while still a high school senior. "I've taken a camp every year since they were offered," he says. "They really pushed me to a tech career because they were fun and hands on."

Top Right: Marcus Wiley with Ranken President Stan Shoun at Marcus' first Summer Adventure Academy in 2012.

Bottom: Now enrolled at Ranken, Marcus is pursuing his dream of a technology career.





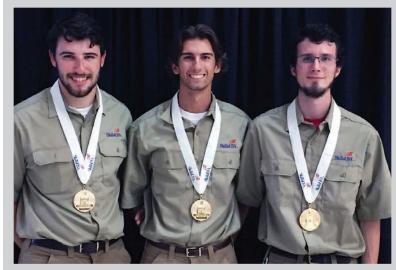
# STEMFOCUS

### STEM Outreach Activities



# FIRST PLACE - Missouri SuperMileage Challenge

220 mpg! That's what one of Ranken's team of high schoolers achieved when they took top honors in the Missouri SuperMileage Challenge this year. The challenge brings together students from high schools across the region who work in teams of three to design, fabricate and then test a custom vehicle to see how far it can travel on a gallon of gas. The students start the design process in Ranken's Summer Adventure Academies and then continue fabrication and testing throughout an entire school year, all the while working with faculty from the College's welding, automotive and precision machine technology programs. Last year, Ranken's team earned third place honors.



#### GOLD and SILVER Medals - SkillsUSA

The record continues! For the fourth year in a row, Ranken students have brought home national medals from the SkillsUSA National Leadership and Skills Conference. This year, a team from Precision Machining Technology earned a Gold Medal in the Automated Manufacturing competition. Another student also brought home a Silver Medal in the Employment Application Process Leadership competition. Ranken continues to be a strong supporter and key participant and partner in the skilled trade, technical and leadership competition. Since 2007, Ranken has hosted the Eastern District SkillsUSA championships at our St. Louis campus. In 2017, it offered \$49,000 in scholarships to potential Ranken students.

# STEM Academies for Educators

#### Total enrollment since 2012: 455

To increase interest in STEM career pathways, Ranken offers special summer workshops for educators throughout the region where they learn how to incorporate technology into their classroom instruction. The program has been highly successful with many educators attending multiple workshops and suggesting new, ongoing course topics.

2017: Graduate Credit Available

NEW: The Power of Making, Tinkering & Engineering in the Classroom

NEW: Computer Coding STEM Academy

"At Ranken, we use a 'tempered radical approach," which identifies grassroots leaders who have the ability to mobilize social, political, and economic communities to encourage STEM career choices."

Barbara Bragg, MSL Director, Ranken STEM Pathways Development









#### RANKEN TECHNICAL COLLEGE

#### **Our Mission**

Ranken Technical College is a private, nonprofit, degree-granting institution of higher learning whose primary mission is to provide the comprehensive education and training necessary to prepare students for employment and advancement in a variety of technical fields.

#### **Institutional Purposes**

- To provide education in current and leading-edge technology that develops critical thinking and problemsolving skills
- To incorporate general education into all programs to provide students with communication, scientific, mathematical, computer, human relations, business and life skills along with an appreciation for and ability to continue the learning process.
- To instill within Ranken students the work ethic attributes in demand by industry, including honesty, ethical standards, dependability, industriousness, commitment to quality, craftsmanship, courtesy, professionalism, teamwork, professional appearance and safety consciousness
- To provide continuing education and customized workforce training in various technical occupations

#### **Values**

The vision statements for Ranken Technical College define the framework for how the College will accomplish its mission and purposes. Ranken Technical College shall:

- Be a leader in providing trade and technical education
- Promote an environment which celebrates diversity, recognizing the valuable and unique contributions diverse people can bring to the Ranken community
- Actively involve itself in community issues
- Continuously explore new areas of technology for inclusion in existing programs as industry demand and market conditions dictate
- Pursue opportunities for growth and expansion, compatible with the College mission and appropriate to its resources, which address the needs of industry, the community and students
- Support a continuous improvement process which assesses and improves the quality of education in terms of content, delivery and student learning
- Provide a faculty and staff possessing the requisite knowledge, education, experience and motivation to perform their varied roles

- Provide student support services necessary to promote persistence from enrollment to employment
- Foster a climate in which employees experience a high level of job satisfaction
- Manage resources in an ethical and responsible manner to meet current and future challenges
- Treat all members of the Ranken family students, employees, financial supporters, employers and visitors

   with dignity and respect by conducting business in a professional and responsible manner

#### The Technical Education Component

Currently, students at Ranken may major in any one of several technical skills, each of which is described in our catalog of technical courses. Training in a student's major includes a thorough grounding in the theoretical principles upon which the more specific job-based skills are developed. That is, the "why" is taught in concert with the "how." The "how" component is developed by extensive practical application of principles through hands-on training, using the equipment in the College's comprehensive shops and labs.

#### The General Education Component

Consistent with the College's Mission Statement, the general education departments of Ranken Technical College are designed to provide a foundation of general education to complement our students' technical education and prepare them for life-long learning. Ranken is committed to maintaining a strong general education component.

#### The Work Ethic Component

Employers know that Ranken Technical College is a source of excellent employees. Industry leaders know that our curriculum provides Ranken graduates with the skills, knowledge and abilities necessary to succeed in almost any job setting. However, employers also want their employees to be more than well-educated technicians. Employers consistently rank the possession of positive work values, attitudes and behaviors as essential to the retention and promotion of their employees.

# Ranken Technical College

### 2017-18 Board of Trustees

#### Welcome New Board Member, Michael R. Loynd

We welcome
Michael Loynd as
our newest Trustee.
Loynd is a partner
in the Loynd Group,
Compass Venture
Partners, and
also serves as the
Executive Director
of Interco Charitable



Trust, a \$45 million trust that supports local organizations involved in improving St. Louis civically and economically, with an emphasis in education. As part of its outreach, Interco funds minority scholarships for colleges, high schools, and inner city elementary schools.

Loynd has been recognized as an outstanding community leader, and was a member of the "40 Under 40" group of community leaders honored by the St. Louis Business Journal in 2010. In 2017, the Governor's Missouri Community Service Commission recently awarded him the Show-Me Volunteerism Award, which recognizes one individual from Missouri for outstanding volunteerism. In 2009, he was the inaugural recipient for the Benjamin Edwards III Award for outstanding community service.

In addition to Ranken's Board of Trustees, Loynd serves on the board of directors for several other community organizations, including The Muny, Forest Park Forever, St. Louis Sports Commission, Danforth Leadership Council, the St. Louis Olympic Committee, and is one of the founding members of the Missouri School Based Health Alliance, among others. He earned his law degree from Washington University School of Law in 1999.

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