This strategic plan represents a new chapter in Speed School’s continuous and dynamic evolution and development. Hundreds of faculty, staff, students, alumni and friends have helped us forge a framework that will position us for an ever-evolving future.

The plan focuses its key goals, strategies and tactics on what is critical for Speed School to become a world-class engineering school. We look forward to continuing to engage all our partners to grow the reputation of Speed School and increase its value to students, the community, the region and the world.

From its 1925 founding named for Louisville industrial icon and philanthropist James Breckinridge Speed, to its recognition today as a premier, metropolitan engineering institution, JB Speed School of Engineering stands as a proud pillar of opportunity and edification for aspiring engineers across the Commonwealth of Kentucky and the country.

The Speed School community has been shaped on a foundation of exemplary faculty and staff, capable and committed students, exceptionally accomplished alumni, and generous donors. The School is proud of its impressive history of achievements in engineering education, scholarship, diversity and service to the community.

Today’s more than 2500 enrolled engineering students at the undergraduate, graduate and PhD level become the movers, shakers and makers that create a better world tomorrow.

This strategic plan represents a new chapter in Speed School’s continuous and dynamic evolution and development. Hundreds of faculty, staff, students, alumni and friends have helped us forge a framework that will position us for an ever-evolving future. The plan focuses its key goals, strategies and tactics on what is critical for Speed School to become a world-class engineering school.
This Speed School strategic plan lays out not only our mission, vision and history but the blueprint to move forward as an engineering school first in its class. We will excel at giving our students, faculty, staff and partners the opportunity to Learn, Discover, Connect, and Work in our shared future as a school and a community.
Since my arrival in 2018, I have been incredibly impressed with Speed School and the enthusiastic engagement of our faculty, staff, students, alumni, industry partners and friends. This is a place for ideas that will transform and reimagine our world. A place for both dreamers and doers. A place where diligent and impassioned students, staff, and faculty bring invention and innovation alive. A place where our research, diversity, scholarship and service transform our communities and extend our economic impact into the region and beyond.

With the robust co-op program, our students become sought after engineers with a full year of work experience upon graduation. Our faculty are top notch instructors and the best researchers in their fields, continually bringing new innovations to our local, regional and national communities.

To continue to honor this vibrant tradition of success, we have worked as a team to create a blueprint for our future with this strategic plan. It strengthens our mission for Speed School to be a great place to learn, work and invest. It is thanks to the passion, dedication and caring of all the Speed School community that we have this dynamic plan that will evolve in response to the needs of academia and industry.

We are poised to make Speed School of Engineering a premier choice, competitive with other prestigious institutions. We will continue to welcome the thoughts and suggestions of all our friends to determine the best path forward.

Emmanuel G. Collins, Ph.D
Dean, J.B. Speed School of Engineering
These industries – transportation, energy, and infrastructure – were vital to Louisville’s growth and emergence as a major metropolitan area. They remain vital today, as J.B. Speed’s vision helped shape our city, region, and state. Speed School students carry forth the tradition of forward-thinking, made possible by the Speed family.

After World War II, engineering departments offering five-year baccalaureate programs began reducing them to four years in response to market demands and the need to allocate faculty and laboratory resources to growing graduate programs. Speed School was one of the nation’s last holdouts against this trend, but finally, in 1972, the school and its departments divided the five-year program into two portions: a four-year portion resulting in the award of B.Sc. degree, and a fifth year resulting in the award of a practice-oriented master of engineering (M.Eng.) degree.

Later that decade, ABET and the Engineering Accreditation Commission (EAC) established separate basic-level and advanced-level accreditation options (with the basic level criteria forming a completely-contained subset of the advanced level criteria). At that time, the EAC permitted programs to pursue either basic- or advanced-level accreditation but not both. Speed School made sure that its integrated B.Sc./M.Eng. programs satisfied the expanded criteria and successfully stood for advanced-level review in 1978. Speed School has maintained advanced-level/masters level accreditation.

In 2009, ABET changed its longstanding policy prohibiting dual-level accreditation, providing an opportunity to resolve the problems associated with masters-only accreditation. Speed School is proud to be the first engineering school to achieve dual-level accredited for its baccalaureate and master of engineering degree programs.

Continuing to meet industry standards, Speed School has grown by adding departments offering undergraduate and graduate degree programs in Computer Science and Engineering, Industrial Engineering, and Bioengineering. The Department of Engineering Fundamentals was created specifically to engage and support our newest students to help insure their success as they pursue an engineering degree.

The Speed School community thrives upon a strong framework consisting of outstanding faculty and staff, dedicated and capable students, highly accomplished alumni, and generous benefactors. The School takes immense pride in its remarkable legacy of accomplishments in engineering education, scholarly pursuits, promotion of diversity, and dedication to community service.
OUR VISION
The vision to Speed School is to become THE global leader of experiential-based engineering education and high-quality scientific and applied research in featured areas.

OUR MISSION
Speed School pursues prominence as a metropolitan school of engineering by:
• Producing high quality engineers that have strong theoretical and experiential training.
• Creating a welcoming environment for engineering students from all backgrounds.
• Partnering with regional technology and manufacturing partners to enhance student career readiness for anticipated workforce needs.
• Conducting high quality scientific and applied research in featured areas of research to advance knowledge and to solve practical problems.
The Speed School community is committed to exemplifying the Cardinal principles. The symbol of this character is illustrated by an imposing shiny black granite sculpture called Integrity donated by esteemed alumnus Bernie Dahlem. Inscribed on the sculpture are words engineers live by, the eligibility code of engineering honor society Tau Beta Pi:

We consider that integrity is the sine qua non for membership in Tau Beta Pi; that it transcends in importance scholarship, activity and every other qualification. Without private and public integrity, we believe that no organization is worthy of existence. Under integrity, we include honor and high standards of truth and justice.

ACCOUNTABILITY.
We keep our promises to one another and to those outside the college. We are not afraid to admit mistakes. We are accountable to the Speed School team.

RESPECT, irrespective of position. 
We respect everyone in Speed School no matter their position. We also respect our rights to differing and conflicting positions on various issues. We foster these values in Speed School students.

DIVERSITY AND INCLUSION.
We seek to build a diverse community of students, faculty, and staff, and an environment that let’s each person know they are included in the Speed School family.

INTEGRITY AND TRANSPARENCY.
We carry out our core mission of engineering education and research honestly and ethically. We are open in sharing with one another how our decisions are made in the best interest of the Speed School family.

Noble Purpose.
We strive to develop engineers that desire to make a positive impact and improve the quality of life in the communities of our world.

AGILITY.
We recognize that we are in a rapidly changing world and that to thrive and not just survive we must be quick to adapt to these changes. A college must be nimble to be successful.

LEADERSHIP.
We foster leaders who seek to bring positive change and guidance to Speed School. These leaders may or may not be in formal management positions. However, they make a difference. Anyone has the capacity to step up as a leader.
LEARN

Produce a diverse group of engineers who are sought by industry for their ability to apply problem-solving and critical thinking skills to meet the engineering challenges of today and tomorrow.

With guidance from our stakeholders (workforce leaders, researchers, etc.) we will recruit and graduate a well-educated and diverse student body through meaningful and structured commitment to student success. We will engage every undergraduate student in experiential learning opportunities and graduate students in research that will bolster our prominence among Carnegie-classified Research I colleges of engineering.

Strategy L1.
Increase both the size and diversity of our undergraduate student body by:

A. Reassessing recruitment “zones” to ensure the limited capacities of Speed School Admissions staff are utilized in the most effective areas;
B. Coordinating with main Admissions to streamline larger-scale recruitment efforts;
C. Enhancing Digital Media Marketing presence, either in-house or via relationships with external vendors;
D. Enhancing Outreach programming in West Louisville and other areas with high underrepresented minority populations.

Objectives/Milestones
1. Recruit an incoming class of over 415 Engineering students plus 100 Applied Science students (includes BA CS and Applied Engineering programs).
2. Recruit an incoming class with a percentage of URM students that meets or exceeds the highest proportion in the past 5 years (Fall 2018 thru Fall 2022).
3. Recruit an incoming class with a percentage of Female students that meets or exceeds the highest proportion in the past 5 years (Fall 2018 thru Fall 2022).
4. Increase the number of students from the West End (and other areas with high URM populations) who enroll in our degree programs.

Strategy L2.
Diversify the number and variety of experiential learning opportunities for all undergraduate students at Speed School by:

A. Expanding existing International Service-Learning Course in Peru, and investigate addition of domestic service projects utilizing similar technology, potentially in Appalachia;
B. Diversifying number and types of internship opportunities to incorporate new career pathways such as: Healthcare IT, Humana Innovation Hub assignments, skill enhancement semesters, patent-law placements, etc.;
C. Increasing the number of industry capstone projects and utilizing the Engineering Design and Innovation Showcase (EDIS) as a recruitment tool in coordination with Speed School Admissions and Outreach;
D. Implementing opportunities for students to build a “personalized Professional Development plan” to span the various experiential learning components of their degree path.
**Objectives/Milestones**

1. Open at least one new service learning program before 2025;
2. Establish agreement with Humana’s Innovation Hub to develop Engage: Engineering Program leading to at least 5 new co-op/internship placements and produce 5 new industry Capstone projects;
3. Increase the number of industry/external projects to 40% across all participating majors and host student groups from at least 4 different high schools at the EDIS event in the spring semester;
4. Establish and pilot a process for student personalized Professional Development planning, such that a pilot group of students graduates with an engineering design portfolio that they can use when seeking employment.

**Strategy L3.**

Increase the number of students enrolled in Speed School’s MS programs by:

A. Coordinating with various industries to explore additional opportunities for corporate-funded Employee Development programs that utilize established Graduate programs at Speed School;
B. Implementing additional pedagogical training requirements for ALL instructors who teach online courses (both initial training and ongoing professional development);
C. Enhancing in-person regional recruitment efforts and Digital Media Marketing presence, either in-house or via relationships with external vendors with a focus on marketing the reduced tuition rates for in-person MS programs.

**Objectives/Milestones**

1. Hold at least 3 informational meetings/focus groups with potential corporate partners.
2. Increase USNWR Online Engineering Master’s degree rankings into top 50.
3. Increase retention rates for students in online programs by an additional 4%.
4. Increase enrollment in on-campus MS programs by 15% (excluding students in the GE-Edison cohorts).

**Strategy L4.**

We will increase the overall retention rates of Speed School students, specifically for first-year students, but also work to ensure retention rates are consistent across demographic groups within a cohort by:

A. Enhancing the Brown Forman Engineering Academy (BFEA) bridge program to incorporate ongoing requirements for academic, social, personal, and professional student success programming throughout their first year;
B. Evaluating the addition of a recitation for the math course, ENGR 181, and expanding the Speed Connectors Network (SCN) to incorporate summer Math prep and/or additional development of team building skills;
C. Assessing deviations in retention across demographic characteristics for similar student cohorts and establish a plan of action to address disparities;
D. Assessing specific retention needs for students who are academically talented and yet underprepared in math (i.e., not prepared for ENGR 100 or higher).

**Objectives/Milestones**

1. In Unit retention of BFEA students from Fall 1 to Fall 2 exceeds the retention rate of non-BFEA students in their cohort by at least 12%.
2. Fall 1 to Fall 2 in Unit retention of SCN students who start in ENGR 181, meets or exceeds the retention rate for that cohort of students who start in ENGR 100 (one math course further into the sequence).
3. Increased use of REACH tutoring as seen by (1) a 40% or greater increase in total tutoring hours completed by First Year students over the baseline 2022-23 year; and (2) a 10% increase in the number of individual student (across all years) that participate in some level of tutoring.
4. Submit a proposal for a NSF S-STEM grant that would encompass students in all Engineering disciplines that are academically talented and yet underprepared in math (i.e., not prepared for ENGR 100 or higher).

**Strategy L5.**

To enable domestic students to start their careers in an institution that meets their initial needs (e.g., Community College or HBCU) and to enable international students to experience American higher education opportunities, develop additional 2+2 pathways with both domestic and international institutions by:

A. Establishing 2+2 Pathway for KCTCS students to enter the new Applied Engineering degree program;
B. Establishing new 2+2 Pathways with at least 2 international institutions;
C. Establishing 2+2 Pathway with Kentucky State University (KSU);
D. Investigating other academic agreements with at least one international institution (i.e., visiting student cohort, pathway into graduate programs, student exchange, etc.) to enhance the international recognition of Speed School and funnel these students into other existing programs/pathways.

**Objectives/Milestones**

1. Increase the number of KCTCS transfer students into ALL Speed School programs to 30+ students per year.
2. Increase number of international transfer students to 10+ students per year.
3. Implement a robust partnership with KSU.
4. Number of Speed School students enrolled at UofL in combination with MetroCollege program increases to 50+ students.
Through collaborations with and funding from government, industry and philanthropy, Speed School will enhance its productivity and innovation in research, scholarship, and creative activities, while simultaneously training our next generation of research engineers and addressing the Grand Challenges of Today to bolster our prominence and reputation among Carnegie Classified Research I colleges of engineering.

**Strategy D1.**  
To enhance the national reputation of Speed School, increase the research productivity of the faculty by:  
- **A.** Replacing retiring research inactive tenured faculty with well-vetted energetic new hires who are either currently or show the promise to be research productive;  
- **B.** Increasing startup packages to better recruit research active faculty;  
- **C.** Expanding Speed School’s footprint so there is adequate space for our current and future research-active faculty.

**Objectives/Milestones**  
1. Increase the average research expenditure per Speed School faculty to $200K per person.  
2. Attract at least 1 high level researcher who is a member of the National Academy of Engineers.
**Strategy D2.**
Increase research and educational productivity of research centers and core facilities by:

A. Advertising our Research Centers and Core Facilities so they are better utilized by regional industry;
B. Developing a strategy for replacing expensive equipment in our Engineering Research Centers and Core Facilities;
C. Winning competitive research infrastructure awards from government agencies;
D. Offering more classes that utilize our state-of-the-art research center labs and core facilities.

**Objectives/Milestones**
1. Increase annual service center grants by 20% from their highest levels in the last 5 years (FY2018 thru FY2022).
2. Increase annual research center expenditures by 20% from their highest levels in the last 5 years (FY2018 thru FY2022).
3. Increase the number of classes utilizing the research center labs and core facilities by 20%.

**Strategy D3.**
Grow the number of graduate students in Speed School by:

A. Increasing the number of teaching assistantships, research assistantships, and fellowships available for PhD students;
B. Increasing the number of MS students by customizing graduate programs/certificates for specific industry partners and advertising our new Resident Rate for On-campus MS Program Initiative;
C. Growing the Speed School Graduate Support Office as graduate enrollment grows.

**Objectives/Milestones**
1. Increase the number of enrolled PhD students by 20% from their highest levels in the last 5 years (FY2018 thru FY2022).
2. Increase the number of enrolled MS students by 20% from their highest levels in the last 5 years (FY2018 thru FY2022).

**Strategy D4.**
Increase Speed School's USNWR Graduate Program ranking by:

A. Growing the research and graduate program metrics;
B. Advertising the graduate and research programs to engineering deans in the U.S.

**Objectives/Milestones**
1. Move into the Top 100 ranking.
We will create social, cultural, and learning opportunities that bring people to Speed School or Speed School to people by leveraging faculty, staff and student expertise and talent and partnering with regional industry, foundations, K-12 schools, community colleges, and international academic partners.

**Strategy C1.**
Improve community awareness of Speed School by:

- **A.** Supporting Accolade, Cardinal Preview Day, Maker Faire Louisville, Engineering Exposition (E-Expo), Engineering Design and Innovation Showcase (EDIS), and other activities to engage the community;
- **B.** Promoting and supporting departmental and club guest speaker invitations;
- **C.** Hosting daily group visits, designed specifically for community stakeholders and highlighting the key areas of interest;
- **D.** Hosting and participating in campus-wide events targeting diverse groups;
- **E.** Hosting events in the community connecting stakeholders with campus resources.

**Objectives/Milestones**

1. Increase external participation in the E-Expo by 50 participants and the EDIS by 30 external participants from their high in the past 5 years (AY2018 thru AY2022).
2. Coordinate a speaker’s calendar that is promoted through social media and participants in the research townhall community.
3. Serve at least 500 visitors annually through Speed School’s daily visit program.
4. Serve at least 1000 visitors annually through the campus-wide events.
5. Host at least 2 community-based events each academic year.

**Strategy C2.**
Provide community engagement activities that expose K-12 students to engineering and other STEM disciplines by:

- **A.** Targeting specific K-12 schools to increase STEM enrollment;
- **B.** Host maker fairs, summer camps and other activities to generate awareness and excitement;
- **C.** Develop a community of alumni to attend high school career days across the region;
- **D.** Develop marketing videos for each area of engineering that fair workers can show on a laptop while wearing UofL t-shirts.

**Objectives/Milestones**

1. Host 15 schools each year for field trips or on-campus related activities.
2. Support the fall Maker Faire Louisville and encourage K-12 participation in EDIS events.
3. Host 12 camps as part of the summer STEM Enrichment series.

**Strategy C3.**
Increase Speed School’s USNWR Undergraduate Program ranking by highlighting Speed School to engineering deans at other universities.

**Objectives/Milestones**

1. Move into the Top 100 ranking.
We will develop hiring practices to attract competitive candidates and support diversity, equity, and inclusion. We will also promote systematic and uniform opportunities for career advancement of employees.

**Strategy W1.**
Develop a Speed School faculty mentoring program and encourage continual faculty training.

**Objectives/Milestones**
1. Have all new faculty participate in a faculty mentoring program; new faculty should be assigned an academic mentor for professional development and a personal mentor for personal growth.
2. Have widespread faculty participation in internal and external faculty and leadership development seminars and online webinars.
3. DEI training for each faculty member participating in a search committee.
4. Expand unit policies that support career advancement for faculty who are teaching specialists.

**Strategy W2.**
Encourage staff training and advancement.

**Objectives/Milestones**
1. Career ladders for all staff positions.
2. Provide mentors for all new staff.
3. Develop unit policies that support staff career advancement.
4. DEI training for each staff member participating in a search committee.
5. Encourage participation in learning opportunities provided by UofL’s Employee Success Center.

**Strategy W3.**
Encourage faculty participation in the Peer Observation Program (P.O.P.).

**Objectives/Milestones**
1. 60% or more of Speed faculty have participated in P.O.P.

**Strategy W4.**
Be aggressive in nominating faculty and staff for both internal and external rewards.

**Objectives/Milestones**
1. Nominate at least five faculty and five staff for awards on an annual basis.
2. Nominate at least one faculty and one staff for participation in the Cardinal Leadership Institute annually.

**Strategy W5.**
Develop a systematic approach to identify and recruit a diverse pool of candidates for faculty and staff positions.

**Objectives/Milestones**
1. Increase diversity of faculty.
2. Increase diversity of staff.