



**Purdue Student Success
Commission for Higher Education**
November 14, 2024

Excellence at Scale – Student Success

World Readiness Programs prepare students for work, life and civic engagement beyond graduation.

- Internships
- Undergraduate Research
- Experiential Education
- Service-Learning
- Study Abroad

Jenna Rickus
Senior Vice Provost for
Teaching & Learning



Purdue's Foundational Values

Excellence at Scale With Affordability

- 58,000 students on main campus
- 107,000 students systemwide
- Top 10 U.S. public university

13 YEARS OF
FROZEN
TUITION

Jobs, Workforce, Innovation

- Jobs lead to brain gain
- Workforce attracts new jobs
- Innovation co-generates jobs and workforce



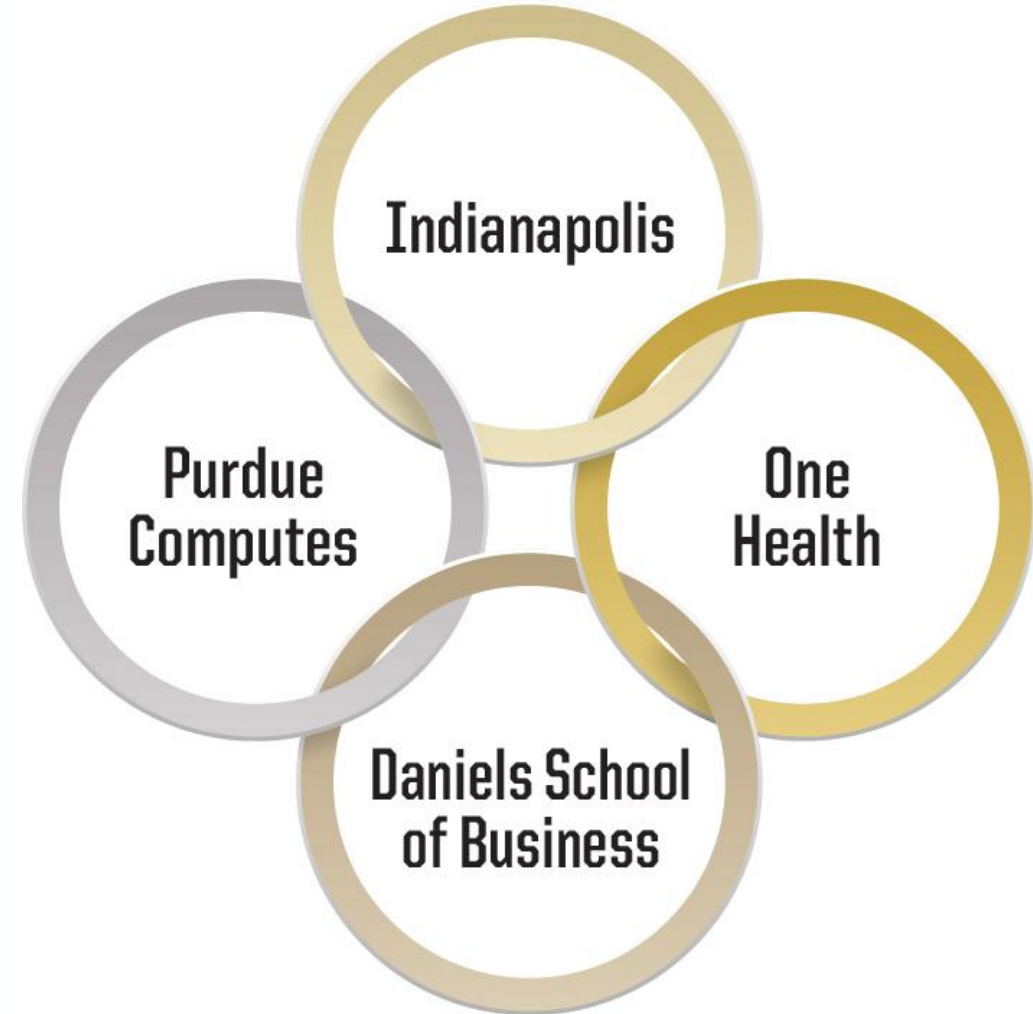
Individual Freedom

- Free inquiry
- Free market
- Defense of freedom



Student Success and Strategic Initiatives

Student success is interwoven in Purdue's Strategic Initiatives through high impact practices, such as student research, opportunities to start a business, and unique experiences in Indianapolis.



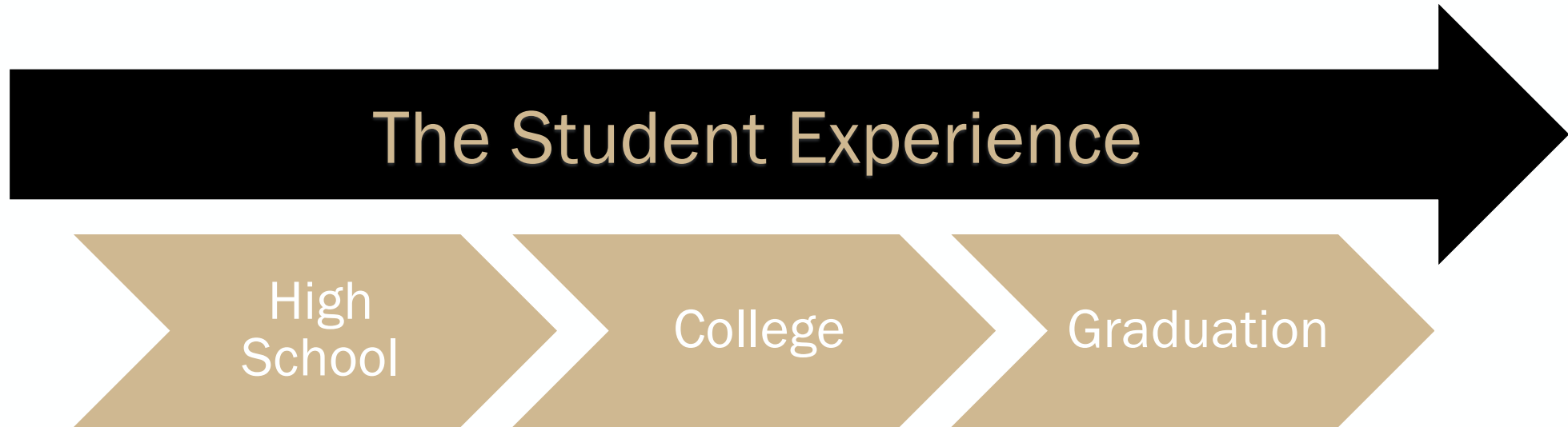
Timeline of Student Success

Drivers of Student Return on Investment

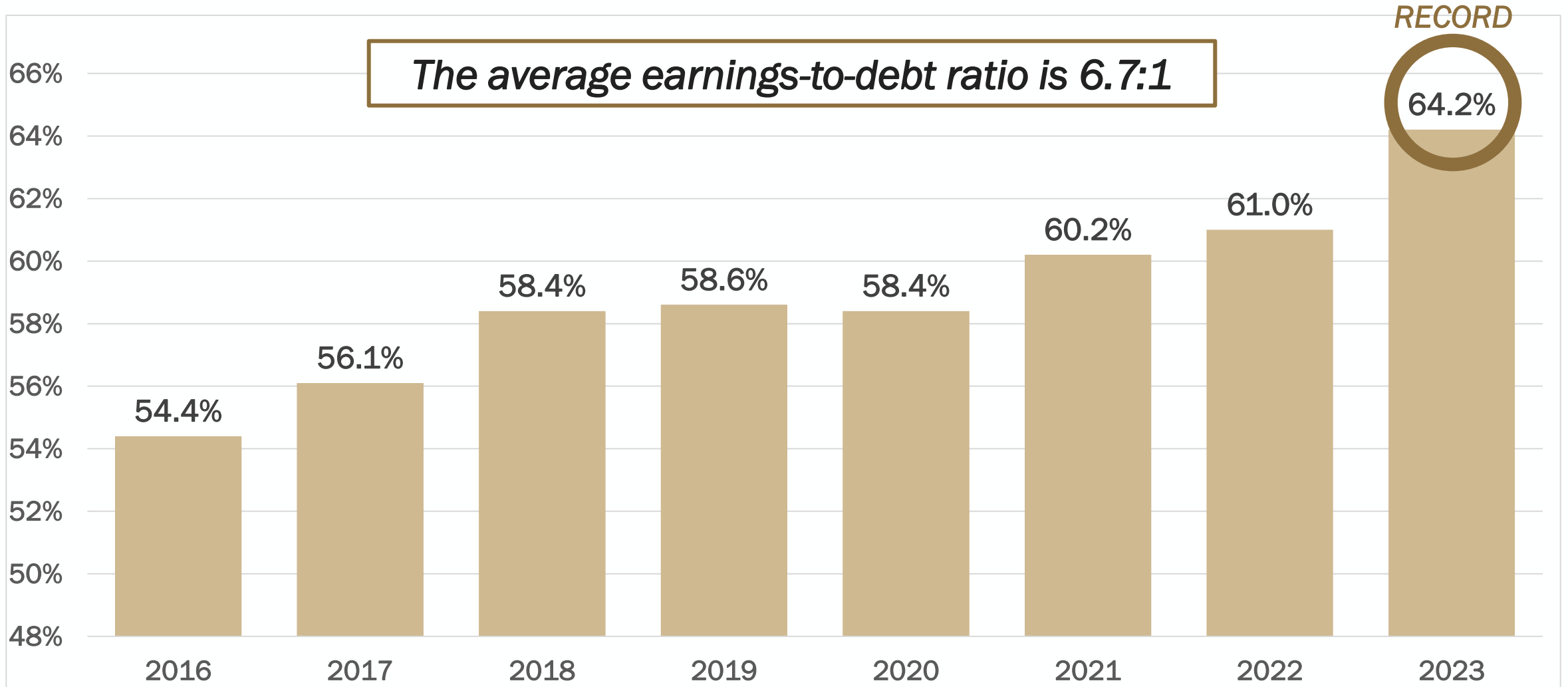
Preparedness, Access &
Affordability

Academic Excellence,
Mentorship & Opportunity

Career Success
& World Readiness



Percent Graduating Debt Free at Main Campus



Purdue Student Success and the HOPE Agenda

Scalable Asymmetric Lifecycle Engagement (SCALE)

The preeminent U.S. program for semiconductor workforce development in the defense sector.

HOPE Agenda: 1, 5, 6

The Data Mine

Working alongside corporate industry leaders, faculty and mentors. Prepares students to solve today's toughest challenges while planning for the jobs of tomorrow.

HOPE Agenda: 2, 5, 6

Entrepreneurship & Innovation Certificate

Available to students in all majors who want to transform their ideas into new ventures, generate value in established organizations, or have a positive impact on society.

HOPE Agenda: 6, 7



SCALE

Led by Purdue Faculty:

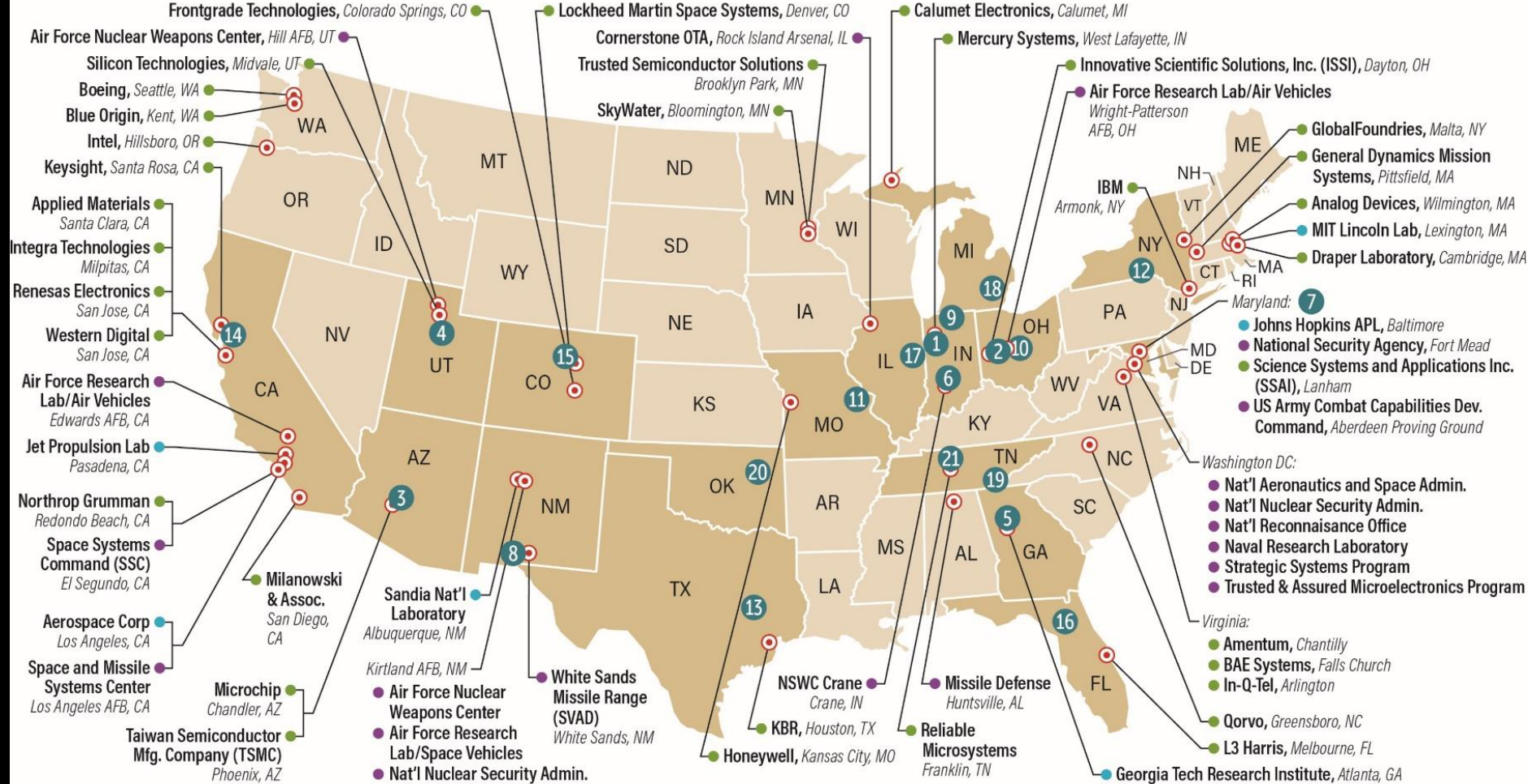
Dr. Peter Bermel
co-Director of Microelectronics

Dr. Kerrie Douglas
co-Director of Career Development

Dr. Ale Strachan
Dissemination Director

Dr. Tamara Moore
Curriculum & SCALE K12 Director

Dr. Tom McKinley
Director of Operations



Target Institutions → Government Federally Funded Research and Development Centers Industry

Partners

↓ (Institution Topic Areas)

- ESS/TAI... Embedded Systems Security/Trusted AI
- HIAP..... Heterogeneous Integration/Advanced Packaging
- RH..... Radiation Hardened,
- RF/OE Radio Frequency/Opto Electronics
- SoC System on Chip

- 1. Purdue University, West Lafayette, IN (RH, HIAP, SC)
- 2. Air Force Institute of Technology, Wright-Patterson AFB, OH (RH)

- 3. Arizona State University, Tempe, AZ (RH, HIAP)
- 4. Brigham Young University, Provo, UT (RH)
- 5. Georgia Institute of Technology, Atlanta, GA (RH, HIAP, SoC)
- 6. Indiana University, Bloomington, IN (ESS, SoC)
- 7. Morgan State University, Baltimore, MD (SoC)

- 8. New Mexico State University, Las Cruces, NM (RH)
- 9. Notre Dame University, South Bend, IN (ESS/TAI)
- 10. Ohio State University, Columbus, OH (SoC)
- 11. St. Louis University, St. Louis, MO (RH)
- 12. SUNY Binghamton, Binghamton, NY (HIAP)

- 13. Texas A&M University, Commerce, TX (CSME)
- 14. University of California, Berkeley, CA (SoC)
- 15. University of Colorado Boulder, Boulder, CO (RF/OE)
- 16. University of Florida, Gainesville, FL (CSME)
- 17. University of Illinois Urbana-Champaign, Champaign, IL (RF/OE)
- 18. University of Michigan, Ann Arbor, MI (SoC)
- 19. University of Tennessee at Chattanooga, Chattanooga, TN (RH)
- 20. University of Tulsa, Tulsa, OK (ESS/TAI)
- 21. Vanderbilt University, Nashville, TN (RH)

SCALE at Purdue

The percentage of SCALE students taking work assignments in **Indiana is 5X higher** than the national average

Purdue leads:

- 33 Academic partners (including Ivy Tech, IU and Notre Dame)
- >100 faculty
- 58 employer partners (11 in Indiana)
- >8,000 Purdue students impacted in employer-inspired curriculum
- 1,032+ students
 - 13% Indiana residents
 - 384 Purdue students

Holistic Career Development

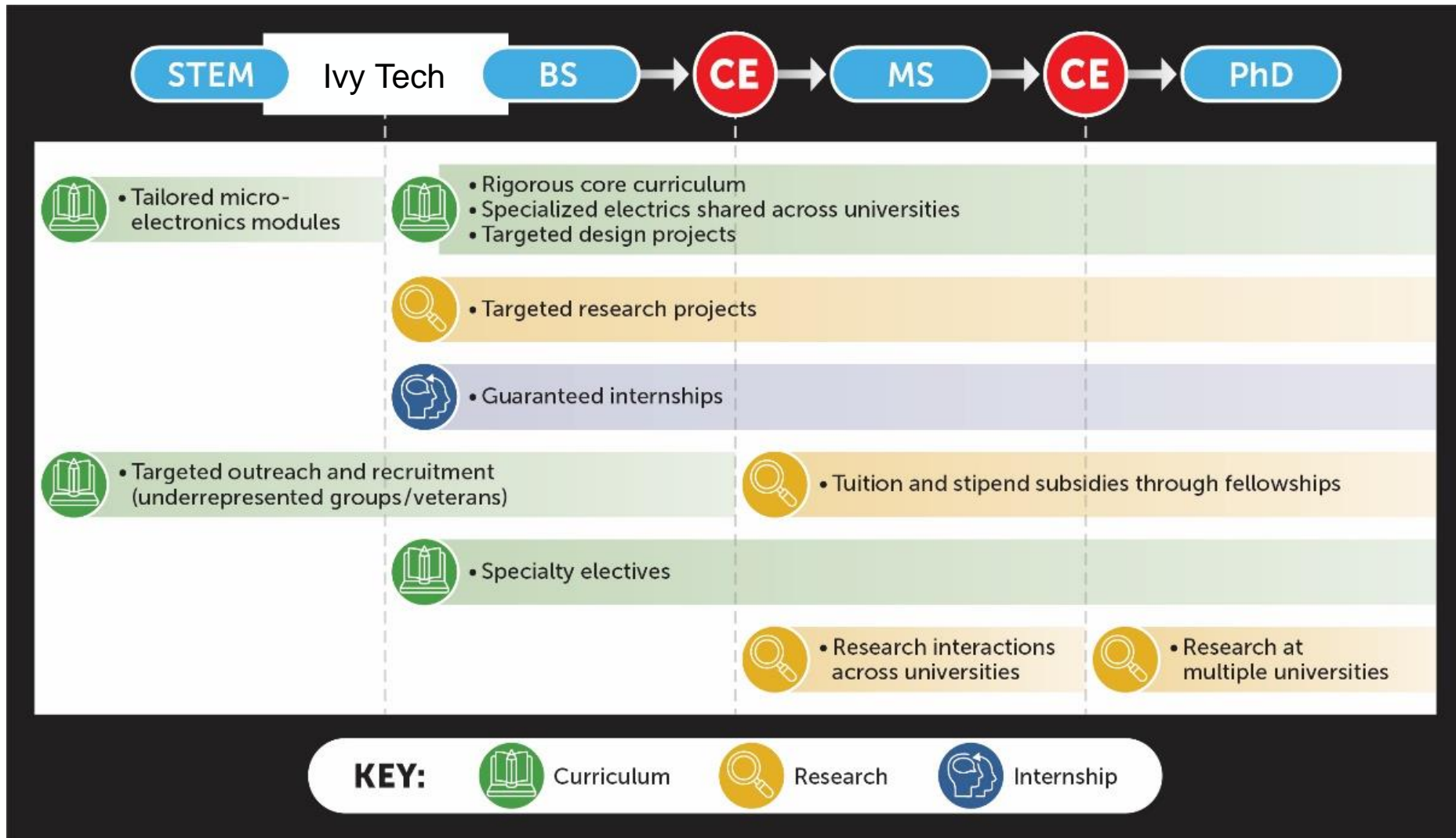
- Financial ROI= 3.5:1
- 66% placement in Defense sector
- 30 students placed in Indiana in 2 years

Currently writing proposals with SK Hynix to DOC

Indiana SCALE Employer Partners

Employer	Location
Amentum	Crane
Draper Labs	Odon
L3 Harris	Fort Wayne
Mercury Systems	West Lafayette
Microchip	Noblesville
Purdue Applied Research Institute	West Lafayette
Reliable Microsystems	Odon
Renesas Electronics	West Lafayette
Trusted Semiconductor Solutions	Odon
Nhanced Semiconductor	Odon
NSWC Crane	Crane

Creating Opportunities Precollege through Professional



SCALE K12 Program

Working with targeted school districts to implement microelectronics integration across the entire school system



Professional development for teachers for the purpose of curriculum development that will be implemented in classrooms with help from classroom coaching



Summer camps to introduce an additional set of students to microelectronics and test curricular ideas

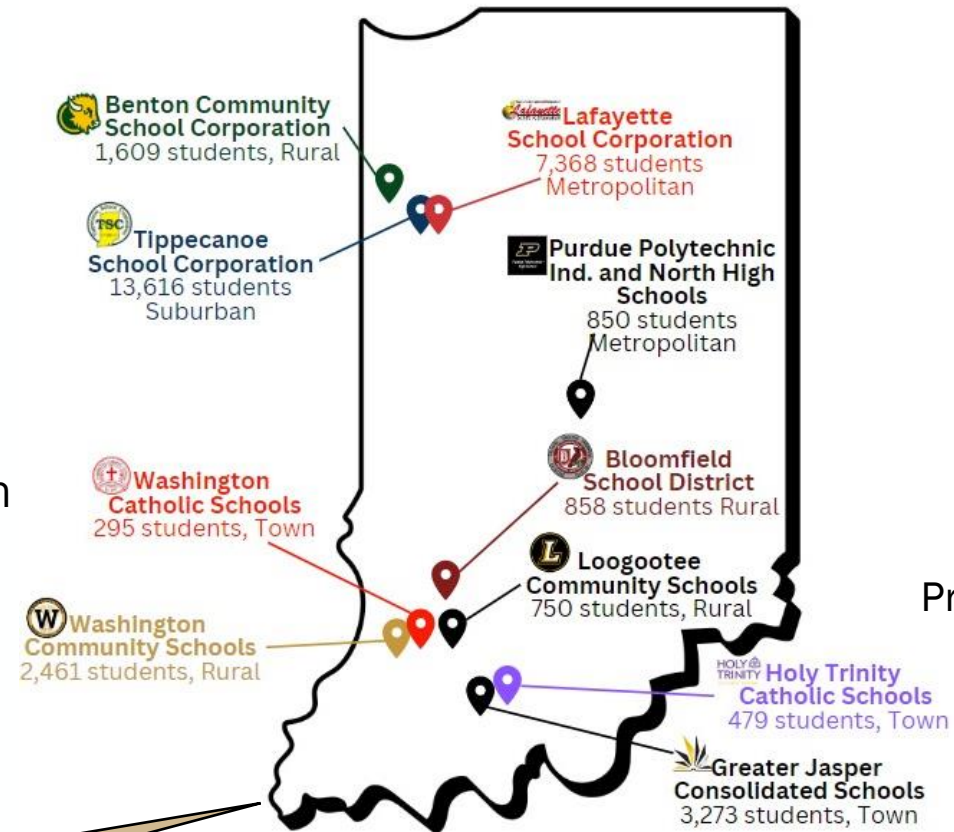


All materials to be distributed on nanoHUB

SCALE K12 By the Numbers

Making microelectronics curriculum sustainable in Indiana schools

- Partnerships with **10 districts, 35 schools**
- AY 2024/2025 will serve more than **20,747 K-12 students** in Indiana
- Participation of **67 Teacher Fellows**
- More than **200 K-12 students** in summer camps
- Participation of **25 high school juniors and seniors** in a new college-credit MicroArtistry course
- Currently developing **15 ME-integration curriculum units** and **20+ mini-units** (all aligned to Indiana standards!)



Led by
Prof. Tamara Moore

These are the same communities as our employer partners!

The Data Mine

Insights to Industry-University Partnerships

Providing Career Experiences to Students at Scale

Mark Daniel Ward

Executive Director of The Data Mine



Overview— The Data Mine

- Living, learning community at residence hall scale
- All backgrounds and majors welcome
- Supportive, active learning environment
- Project based learning of data science skills
- Data sets at modern complexity and size, from all disciplines
- More than 80 Employer Partner projects per year
- More than 2000 graduate and undergraduate students per year, incl. ~100 students from MSIs
- Students from more than 160+ unique majors



Hillenbrand Hall



Employer Partners



Indiana Employer Partners: 3Rivers FCU, Allison Transmission, Beck's Hybrids, Cook, Corteva, Cummins, Delta Faucet, DORIS, Elanco, Elevance Health, Eli Lilly, Evonik, Finish Line, Indiana Fever, Indiana Soybean Alliance, Keystone Cooperative, V2X, Wabash, and more.

Benefits to the Partner: R&D, Workforce, High ROI



Talent access and brain gain

- High-quality industry pathway that is *welcoming* for first-generation students
- Geared toward *all students*; fast onramp and no background required
- Working with interdisciplinary students for 9 months (compared to 10-week summer internships)



Companies build name recognition

- *Small and mid-size companies* work with talented students
- Provides a framework for competition with big tech companies



Testing proof-of-concept projects

- Innovative students create solutions; low-risk; *high return on investment*



Impact from student contributions

- Augmenting the industry workforce
- Students' contributions are valued, appreciated, and immediately integrated

Data Mine Indianapolis

Focus on in-person mentor collaboration



Indiana Soybean Alliance team visits a farm to see elements of their project in the field.



Guest speakers from Roll Tack Ventures speak about entrepreneurship.



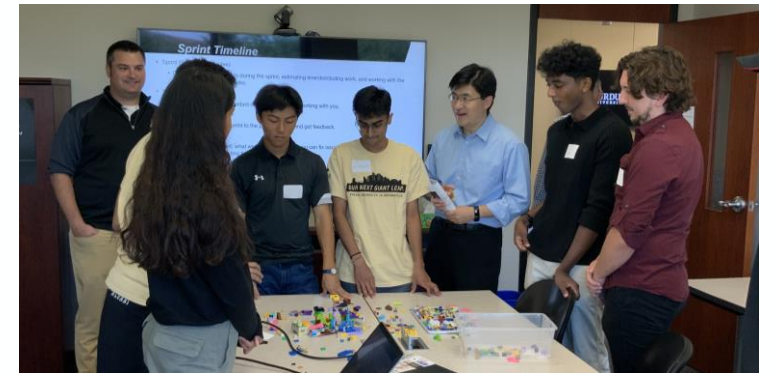
Celebrating "Women IN Tech Week" with six women in industry visiting to speak with students.



Guest speaker from AnalytiXIN to speak on career journeys in data.



Corteva team during lab in ET 219.



President Chiang visits a student lab during the first week of classes where students are learning about Agile project management with Legos.

Indiana Data Mine

Implementation & Collaboration

- Leverage Purdue's presence throughout the state (e.g., West Lafayette, Indianapolis, Fort Wayne)
- Partnerships with universities throughout the state and beyond

2024– 2025 academic year

- 96 total Indiana students
- 15 Indiana institutions (9 new for AY 24-25)
- In active discussion with 7 Indiana institutions who expressed interest
- Data Mine team works with faculty from each participating institution to implement a program that meets their students' and region's needs



Ball State University
Indiana Wesleyan University*
Indiana University – Kokomo
Ivy Tech (5 campuses)*
Purdue Fort Wayne
Purdue Northwest*
Saint Mary's College*
Trine University*
University of Evansville*
University of Indianapolis*
University of Notre Dame
University of Southern Indiana*
Valparaiso University
Wabash College*

*New for AY 24-25



The Certificate in Entrepreneurship and Innovation

Nathalie Duval-Couetil, MBA, PhD

Director, University Entrepreneurship Education Initiatives
Professor, Technology Leadership & Innovation
natduval@purdue.edu

ENTREPRENEURSHIP

CAN BE A

main gig

side hustle

mindset

skillset

toolset

TURBOCHARGE
YOUR PURDUE DEGREE

CERTIFICATE IN
ENTREPRENEURSHIP
AND INNOVATION

PURDUE.EDU/ENTR

Entrepreneurship Program Impact

1000+
NEW STUDENTS
PARTICIPATE PER
YEAR

2000+
STUDENTS ENROLLED
IN ENTR CLASSES
PER YEAR

13,800+
STUDENTS
ENROLLED TO
DATE

60+
ENTR CLASSES
OFFERED PER
YEAR

500+
CERTIFICATES
AWARDED PER
YEAR

200+
MAJORS
ENROLLED

96%
OF STUDENTS
BELIEVE IT WILL BE
USEFUL TO THEIR
FUTURE CAREERS

4 OUT 5
STUDENTS EXPECT
TO WORK IN A
STARTUP

750+
STARTUPS
LAUNCHED BY
ALUMN

\$600M
IN FUNDING RAISED
BY ALUMN
VENTURES

Select Alumni Ventures in Indiana

Glassboard

M U L T I P L Y

Glassboard is a hardware product development firm for clients that range from startups to fortune 500 companies.

"We're already engaged with students, hiring interns, and sponsoring the Purdue Indianapolis Motorsports club."

Grant Chapman, CEO

Multiply Technologies provides IT asset management solutions to organizations.

"Some of my biggest career decisions have been impacted by relationships I built through the program."

Doug Booth, Founder and CEO

THE *Barn* IN
ZIONSVILLE

P/P
PLUM & POPPY
weddings

Plum and Poppy is a wedding planning company & **The Barn in Zionsville** is an event venue in Zionsville.

"The entrepreneurship program showed me how to bring a concept to life and use my creativity to solve problems."

Sarah Bennett, Founder

Anu is an Ag-Tech company empowering people to grow their produce at home.

"The program is the lowest-risk, highest-reward opportunity that complements any degree. It enriched my classroom experience and inspired me to found my company"

Scott Massey, Founder and CEO



Azzip Pizza operates 11 locations across Indiana and Kentucky over 300 employees.

"The ENTR program, where Azzip was born, gave me the confidence and tools to turn my idea into reality. The mentorship I received was critical to launching and growing my business."

Brad Neimeier, Founder and CEO

anu

Baked by Brittany is a Bakery, Restaurant & Bar near Purdue's Campus.

"The ENTR certificate was a great addition to my degree. The projects we did really gave me a different way to think about not only business, but life in general."

Brittany Evans, Founder and Owner

BAKED
BY BRITTANEY
BAKERY, BAR, RESTAURANT

KODA is a mural artist commissioned by Fortune 500 clients and communities.

"The program paved my way to creating a \$1M+ business in my 20s. The hands-on approach and mentorship is why I had the confidence to pursue my artistic dream."

Koda Witsken, Owner and Lead Artist

AZZIP PIZZA

KODA

Flexible Program Requirements



2 INTRODUCTORY COURSES
ENTR 20000 + ENTR 30000 LEVEL CORE COURSE

+

3 2 OPTIONS + 1 CAPSTONE ON APPROVED LIST
COURSES & EXPERIENCES

Experiential Interdisciplinary Courses

ENTR 20000 - Introduction to Entrepreneurship and Innovation* - 11 sections per semester

ENTR 31000 - Marketing and Management for New Ventures – 7 sections per semester

ENTR 31500 - Business Planning for Social Entrepreneurship

ENTR 32500 - Global Entrepreneurship and Innovation

ENTR 46000 - Internship and Career Preparation Seminar

ENTR 48000 - Entrepreneurial Leadership & Careers

ENTR 48100 - Consulting for Emerging Enterprises

ENTR 48200 - Venture Planning Studio



TURBOCHARGE
YOUR PURDUE DEGREE

**** Offered at Indianapolis campus in Spring 2025***

Community Engagement – Consulting Course

Example Client Companies

Spring 2021

- Joyful Journey
- M.P. Baker Electric
- Matchbox Makerspace
- NAMI of West Central Indiana

Fall 2021

- Amplified Sciences
- Brookshire Learning Center
- River Tree Insurance
- The HAWK Foundation
- WiseBev

Spring 2022

- Charles F. Day and Associates
- KLD Alzheimers Association
- Premier Detailing and Wash
- YWCA Empowerment Services

Fall 2022

- Anu/Helophonix/Gropod
- Escape Velocity Brewing
- Rose Market
- United Way of Greater Lafayette

Spring 2023

- Goodstuff USA
- Lyn Treece Boys & Girls Club
- Lightstone Education Center
- Scout Lafayette

Fall 2023

- Aimee Ness Realty
- Junobie
- Mental Health America
- Two Tulips
- Flora Candle Company

Spring 2024

- 21 Petals
- Central Catholic Jr/Sr High School
- Insignum AgTech
- North Side Machine & Tool

Fall 2024

- Aerovy
- People's Brewing Company
- Phoenix Paramedic Solutions



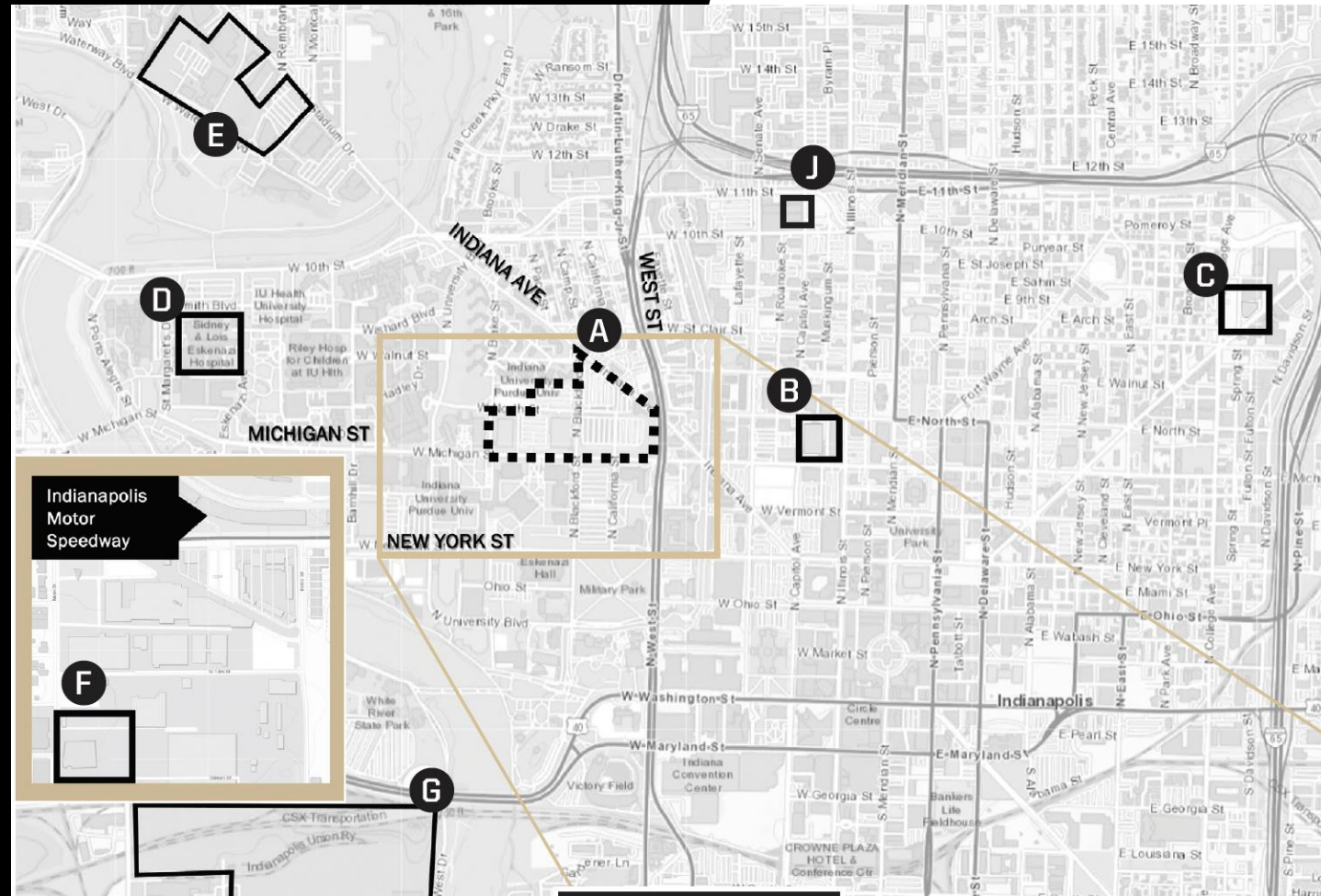
Purdue University throughout Indianapolis

David Umulis
Senior Vice Provost for Indianapolis

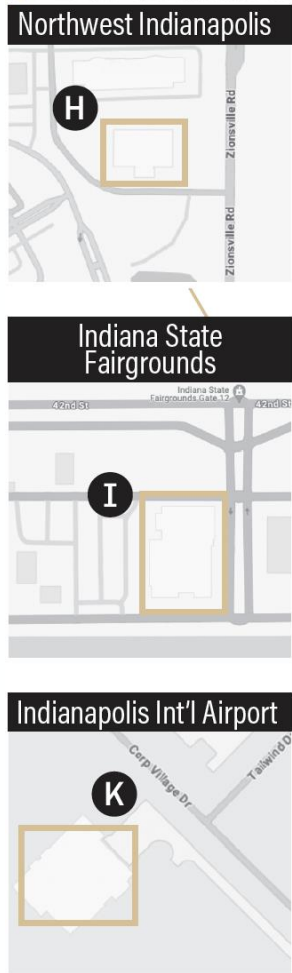
A Purdue Campus

SHARED BUILDINGS WITH PURDUE PROGRAMMING

- ET Engineering/Technology Building
- SL Engineering Science & Technology Building
- LD Science Building
- EL Science & Engineering Laboratory Building
- IO Innovation Hall
- NH North Hall



- B** LUX on Capitol
- C** High Alpha/Bottleworks District
- D** Eskenazi Health
- E** 16 Tech
- F** Dallara
- G** Elanco
- H** SpectronRx
- I** Purdue Extension
- J** Stutz
- K** Purdue Polytechnic Indianapolis



Student Success- Launch in Indianapolis

- Full Boiler Gold Rush Orientation with Unique Indianapolis additions



- Campus Connect- over 10,000 riders
- 2,834 total residential students in Indianapolis
- Teaching and Learning
 - The Data Mine fully launched with over 15 companies, 150 Students, and 12 TAs working
 - More than 200 instructors; 90+ TAs; 395 courses; 100+ staff
- Experiential education at launch-
 - Vertically Integrated Projects
 - Lilly Scholars
 - Courses in Professional Practice



Student Success for Launch in Indianapolis

- Student life and residence
 - Student groups fully integrated at both locations including Purdue Student Government
 - Over 800 students in university housing in Indianapolis
 - Many student activities and orgs: Art Fair, Children's Museum, Indy Scavenger Hunt, Pedal Boats on the Canal, Indiana Fever & Indy Eleven games
- Campus Launch
 - 546 New, first-year Engineering Majors
 - 177 New, first-year Computer Science Majors
 - 117 Honors students in John Martinson Honors college
 - Career Fair- 80 companies Oct. 1- high proportion of Indianapolis companies
- Preparation for the future-
 - Over \$50M in research grant proposals submitted
 - Trustees Approval of 248,000 SF Academic Success Building



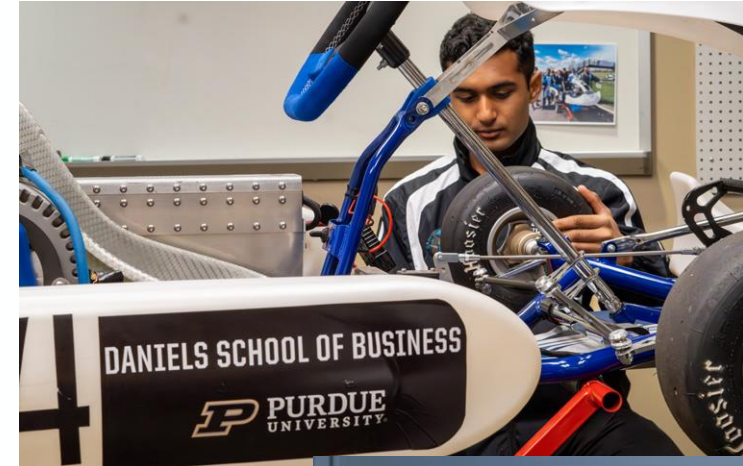
Principles for New Programs in Indianapolis

- **Mission-Driven.** New programs must advance the mission of Purdue University and align with strategic goals, such as Purdue Next Moves, Computes, DSB, One Health.
- **Individualized Student Success.** New programs give students a competitive advantage in the market and align with in-demand skills based on their unique career trajectories.
- **World Readiness.** Programming prepares students for work, life, and civic engagement beyond graduation. This includes career relevant experiences, internships, work-based learning, and experiential education.
- **Showcase Central Indiana.** Programming leverages unique opportunities available in Indianapolis or the Central Indiana region to showcase future opportunities in Indiana.



Highlights for Upcoming Programs in Indianapolis

- New Undergraduate Offerings in **Fall 2025**
 - Actuarial Sciences
 - Integrated Business and Engineering
 - 60% Daniels School of Business classes
 - 40% Engineering classes
 - Entrepreneurship program and certificate
- Many new graduate MS programs coming
- Internships and co-ops starting Spring 2025



Questions?

