Pathways to Prosperity

# Pillar 1: College and Career Readiness

## A Pathways to Prosperity Brief

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The Pathways to Prosperity project is built on the central premise that career preparation should not sit as an add-on apart from academics—it should be woven into general education from elementary school through high school. This brief is one of three companion documents to the *Pathways to Prosperity Model Blueprint*, which distills lessons from the Career Academy Network of Public Schools (CANOPS) model, an Indiana-based charter school network, into a framework that other schools and districts can adapt. The Blueprint organizes this integration around three interdependent pillars: College and Career Readiness, Professional Learning Communities for Student-Centered Success, and Experiential Learning. Each pillar shapes how students build career awareness, identity, and skill across their K–12 experience.

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This brief provides an in-depth exploration of Pillar 1: College and Career Readiness, showing how CANOPS puts it into practice in real schools. It is intended for education leaders, program designers, and practitioners who want concrete guidance for implementing this pillar in their own contexts, whether they are building new pathways programs or strengthening existing ones.

## The Challenge This Pillar Addresses

Many career and technical education (CTE) models treat career education and academic programming as separate activities. That separation limits schools' ability to engage students through authentic, in-depth learning. It also presents a false choice for students between either being college ready or career ready. In reality, success after high school demands preparation for both college and career, which includes strong academics, technical and career skills, "soft" skills, and meaningful work experience.

When academic learning and career preparation are siloed, students get less support in planning for their futures and preparing for high-demand fields. The disconnect is costly. Many students feel unmotivated because school does not seem relevant to their lives even as millions of jobs go unfilled. Put simply, when career education and academic instruction are separated, schools miss key opportunities—both to make learning more engaging and to build the talent pipeline that employers need.

This disengagement shows up in outcomes. Student achievement has been declining, and recent NAEP results underscore the challenge: In 2024, only 35 percent of 12th graders were proficient in reading and just 22 percent were proficient in math (The Nation's Report Card, n.d.).

CANOPS addresses the siloing of academic and career preparation directly by delivering high-quality instruction that prepares students for both college and career—integrating CTE within rigorous academic programming so students can see the purpose of what they are learning and build real pathways to opportunity.

# Pillar Overview

## Integrated Career Exposure and Pathway Development

CANOPS begins career development in elementary school, starting in kindergarten. Each grade level explores six careers with work activities designed to mirror authentic professional tasks, exposing students to a total of 36 careers by the end of 5th grade. For example, students may design fireproof helmets when exploring firefighting or write lyrics and compose music when exploring being a musician. Beginning in 2nd grade, students maintain reflection journals that they continue through 9th grade in which they explore their career interests and self-identified strengths.

All CANOPS students enter high school having engaged in career exploration experiences and developed an understanding of their interests through the Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC) framework in grades K–8. Building on this foundation, students select two career pathways in high school that align with both their prior experiences and their RIASEC results.

While Indiana does not require students to complete a pathway for graduation, CANOPS's goal is for every student to complete at least one pathway as a meaningful demonstration of postsecondary readiness. Pathway selection is not a one-time decision but rather an informed process grounded in exploration, reflection, and ongoing adult guidance.

In the CANOPS model, career development is intentionally embedded into academic learning, advising, and school routines, ensuring that pathways are experienced as a natural extension of learning rather than a separate track. This approach has resulted in 92 percent pathway retention—significantly higher than national averages—and has reduced the need for late-stage pathway changes, allowing students to move forward with clarity and purpose.

CANOPS uses a structured, data-informed process to identify and design career pathways. This process incorporates regional labor market information, projected wage potential, employer input, and documented student interest. Beginning in the 2026–27 academic year, CANOPS will have an advisory board composed of local employers, higher education partners, and workforce development leaders that will meet at least once per year to review curriculum alignment, the relevance of industry certifications, and emerging workforce needs. The board will support pathway design and development, ensuring that offerings reflect both educational priorities and workforce realities.

## Career Education Integrated With Core Academic Classes

At CANOPS, career education is intentionally embedded within core academic instruction across K–12, ensuring that students experience learning as both rigorous and relevant. Rather than separating academic content from real-world application, teachers design learning experiences that blend standards-based instruction with hands-on, career-connected projects.

At the high school level, core academic classes are structured to both prepare students for college and apply learning within authentic, work-based contexts. For example, in mathematics, students engage in applied problem-solving aligned with fields such as engineering and manufacturing. In one Algebra II experience, students collaborate in the makerspace to design and fabricate catapults using PVC materials. Through this project, students explore the concepts of accuracy versus precision while applying principles of kinematics related to projectile motion and falling objects. This type of learning allows students to move beyond abstract equations and see mathematics in action through design, testing, and iteration.

Similarly, English courses emphasize both college readiness and career application. Students develop critical thinking and analytical writing skills through literature while also creating multimedia presentations, mirroring the types of communication required in modern careers. Across content areas, students are expected to apply their learning in ways that reflect real-world expectations.

In some cases, core academic requirements are embedded directly within a student's pathway. For example, students in the Biomedical Sciences and Technology Pathway fulfill their Biology requirement through pathway-specific coursework, allowing for deeper, more contextualized learning that aligns with both academic standards and career interests.

At the elementary and middle school levels, this integration begins early and is supported through a strong partnership between classroom teachers and Maker Managers. Maker Managers work alongside grade-level teams to extend core content standards into STEM-focused, project-based deliverables. These experiences are developmentally appropriate and designed to build curiosity, problem-solving, and foundational career awareness. For example, students may engage in design challenges, prototyping, or applied science investigations that directly reinforce literacy, math, and science standards.

To support this level of integration, CANOPS has invested in makerspaces across all K–12 buildings. These spaces are not isolated labs but rather shared instructional environments that teachers regularly utilize to enhance core instruction. Teachers are supported and encouraged to move their classes into these spaces, creating a culture where hands-on, experiential learning is a consistent part of the student experience.

Professional learning communities (PLCs) serve as the foundation for interdisciplinary collaboration. Teachers meet weekly in PLCs to analyze student data, clarify learning targets, and determine how they will respond when students have or have not mastered content. Within this structure, teachers also collaborate across disciplines to design integrated units and projects that connect academic standards to career pathways and real-world applications.

Through this intentional alignment of academics, career exploration, and experiential learning, CANOPS ensures that students are not only prepared for postsecondary education but are also equipped with the skills, experiences, and understanding needed to succeed in an evolving workforce.

### Dual Enrollment and Early College Programs

Students have opportunities to earn college credit through dual enrollment both within their career pathways and in core academic areas. CANOPS teachers are accredited through IVY Tech, Indiana University South Bend, or Trine University. For instance, in the Biomedical Sciences and Technology Pathway, students can take Human Body Systems for dual credit through Trine University. In the Exercise Science Pathway, students can earn dual credit through Trine University in courses such as Principles of Exercise Science, Kinesiology, and Human Performance.

These opportunities are further expanded through the Career Academy of South Bend Early College High School Program, which enables students to earn a high school diploma and up to 2 years of college credit toward an associate or bachelor's degree while still in high school. Students must apply and be accepted into the Early College program and meet eligibility requirements, including earning at least 11 credits by the end of 9th grade and maintaining 95 percent attendance. The program intentionally targets students who are first-generation college-going students and English Language Learners.

Beginning in their junior year, Early College students can take college-credit courses across a range of academic and career-focused subjects. For example, students can take engineering courses such as Design Technology and Mechanical Graphics and health science courses like Medical Terminology and Essentials of Anatomy and Physiology.

## Research and Policy Alignment

Research from the Organisation for Economic Co-operation and Development, Association for Career and Technical Education, and American Student Assistance demonstrates that early and continuous career development increases student engagement, strengthens academic relevance, and improves long-term

postsecondary and workforce outcomes (American Student Assistance, n.d.; Association for Career and Technical Education, 2023; OECD, 2025).

The CANOPS approach aligns with Perkins V priorities emphasizing early career exploration, National Career Development Guidelines, and state “Portrait of a Graduate” frameworks that highlight self-awareness, decision-making, and future readiness. By integrating career development across grade levels, the model supports competencies that are increasingly recognized as essential for both college and career success.

## How CANOPS Implements the College and Career Readiness Pillar

### Elementary: Building Career Awareness, Language, and Self Knowledge

CANOPS begins career development in elementary school, starting in kindergarten, through the World of Work approach. World of Work is a K–12 career development framework designed to help students understand who they are, what kinds of work interest them, and how school connects to future opportunities.

At CANOPS, World of Work provides the structure for early career exposure. Each grade level explores six careers, giving students exposure to 36 careers by the end of fifth grade. These experiences are developmentally appropriate and intentionally connected to academic learning, hands-on activities, field experiences, and makerspace projects. The goal is not for young students to choose a career. The goal is to help them build curiosity, vocabulary, confidence, and a broader understanding of the kinds of work adults do.

RIASEC is the shared language that CANOPS uses within World of Work to help students make sense of these experiences. Developed from John Holland’s career interest framework, RIASEC organizes interests and work activities into six

broad areas: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. CANOPS uses these categories to ensure that students are exposed to a balanced range of careers and to help students begin noticing patterns in what they enjoy, how they solve problems, what roles they like taking on, and what kinds of tasks feel meaningful to them.

As mentioned above, beginning in second grade, students document their reflections in journals that follow them over time. These journals help students record what they liked, what challenged them, what skills they used, and which RIASEC categories showed up in an experience. This creates a developmental record of student interests and self-understanding. A student who enjoys organizing information during one activity, collaborating with peers during another, and presenting ideas during a third begins to build a more nuanced picture of their own strengths—not as a fixed career identity, but as useful information for future exploration.

### How World of Work and RIASEC Work Together

World of Work is the broader career development approach. It helps students explore work, connect learning to future possibilities, and understand the purpose of school.

RIASEC is the reflection and organizing framework within that approach. It gives students and adults a common language for naming interests, strengths, and types of work.

Together, they help students move through four kinds of experiences:

- **Explore:** Students learn about different careers and industries.
- **Simulate:** Students try classroom-based activities that mirror real work.
- **Meet a Pro:** Students interact with professionals in person or virtually.
- **Practice:** Students apply what they are learning through projects, demonstrations, volunteer work, internships, or other applied experiences.

At CANOPS, this combination helps career awareness become part of K–12 learning rather than a one-time career day or isolated interest survey.

https://www.thecareerproject.org/personality-types-test/holland/

## Middle School: Moving From Exposure to Focused Exploration

In middle school, exploration becomes more focused and reflective. Students continue using RIASEC language and reflection routines, but the purpose becomes more sophisticated. Rather than simply learning about different careers, students begin asking: What kinds of problems interest me? What roles do I naturally take in a team? What skills am I developing? What kinds of work environments might fit me?

CANOPS supports this stage through courses and experiences that connect academic content to emerging interests. For example, students may explore data analysis and environmental science through taking the middle school Computer and Environmental Science course or learn how engineers think by applying the design process through Project Lead the Way. Students also complete digital RIASEC journals from second through ninth grade, helping them identify patterns across projects and experiences.

By the time students reach high school, pathway selection is not treated as a one-time scheduling decision. Students choose two pathways based on accumulated exposure, reflection, adult guidance, and a clearer understanding of their interests and strengths.

## High School: Pathway Selection and Postsecondary Readiness

In high school, students choose two pathways to explore. CANOPS uses a structured, data-informed process to identify and refine career pathways. This process incorporates regional labor market information, projected wage potential, employer input, and documented student interest. Pathway decisions are supported by advisory boards that include industry leaders, ensuring that offerings reflect both educational priorities and workforce realities.

Over time, this approach of regularly incorporating regional labor market and industry leader information has allowed CANOPS to expand from 4 to 11

pathways aligned with high-wage, high-demand sectors. The high school pathways are AI/Machine Learning, Biomedical Sciences and Technology, Criminal Justice, Teaching/Education, Engineering and Architectural Design, Entrepreneurship, Exercise Science, Healthcare, Marketing and Sales, Social and Community Service, and Welding. Each pathway in high school gives students the opportunity to earn dual credits (high school and college credits) and industry certifications. Students can also participate in internships and other forms of work-based learning related to their field, such as job shadowing and employer-sponsored projects. CANOPS works with many local businesses, colleges, universities, and other community partners to ensure students are learning appropriate academic and technical skills for their chosen pathway.

CANOPS's outcomes reflect intentional balance: Approximately half of graduates enter the workforce directly, while the other half pursue postsecondary education, demonstrating the model's commitment to dual readiness.

## Threshold Criteria for Pathway Offerings

CANOPS has refined their approach to pathway selection through experience. Early expansion revealed the risks of adding pathways without sufficient capacity or partner depth. In response, the network established clearer thresholds for pathway selection, partner readiness, and sustainability before launching new offerings.

Pathway selection thresholds require the following:

- demonstrated student interest and demand through enrollment projections, student surveys, and alignment with RIASEC/World of Work profiles
- clear connection to high-wage, high-demand careers within the regional labor market
- alignment with existing or planned CTE certifications, dual credit, or postsecondary pathways
- a defined sequence of courses that leads to credential attainment and/or career readiness outcomes

Partner readiness thresholds include the following:

- at least two or three committed industry or community partners willing to engage beyond advisory roles
- secured opportunities for work-based learning, such as internships or work-sponsored learning
- evidence of mutual benefit, ensuring that partnerships create value for both students and partners

Sustainability thresholds require the following:

- identified and properly licensed instructional staff or a clear staffing pipeline
- financial viability, including startup costs, equipment needs, and long-term funding sources
- scheduling feasibility within the master schedule, especially considering shared staff across campuses
- facilities and equipment readiness to support authentic, hands-on learning experiences
- a minimum enrollment number, such as 15–20 students per cohort, to ensure program viability

In addition, each pathway is reviewed annually using data on enrollment, student outcomes, partner engagement, and postsecondary alignment to determine continuation, expansion, or redesign. This disciplined approach ensures that every pathway is of high quality and is not only innovative but also scalable and deeply connected to real-world opportunities for students.

## Balancing Flexibility and Structure

CANOPS has refined this strategy over time. Early iterations taught the network that choice without sufficient scaffolding led to instability, while overly rigid structures limited student agency. The current design balances flexibility with

guardrails, ensuring that pathways remain both student-centered (based on their interests) and sustainable. To ensure pathways have a solid foundation for continuation, they are offered based on three criteria: student interest, regional job/career demand, and cost of implementation. Because CANOPS students explore pathways throughout their K–12 experience and may select two pathways, they can shift if needed. If a pathway chosen in 9th grade is no longer a fit, they can select a new one in 10th grade and still complete it by 12th grade.

### Completing a Pathway: The Career Pathways Completer Program

The Career Pathways Completer Program, particularly under Indiana's Next Level Programs of Study, is a structured three-part sequence designed to ensure that high school students graduate with career-ready skills, industry certifications, or college credit. A *Concentrator* is defined as a student who completes at least two advanced courses (either Concentrator A or B) within a specific pathway, typically starting with a foundational "Principles" course.

The Career Pathways Completer Program entails completion of all of the following:

- Year 1: Principles of the Career Pathway (beginning level, introduction to the pathway)
- Year 2: Concentrator A
- Year 3: Concentrator B

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## What to Do at Each Implementation Stage

Schools can use this framework to sequence implementation, substituting their own planning, launch, and growth timelines as needed.

## Stage 1: Design and Planning / Preparing to Open

During the design phase, schools should establish the overall structure of the career development model and ensure that it is aligned with academic programming, workforce demand, and graduation requirements.

### Program Design and Architecture

- Define the full K–12 career exposure and pathway architecture, including the developmental progression from early career exploration to specialization. Schools should map how students move from broad exposure in elementary grades to increasingly focused exploration and eventual pathway selection in high school.
- Analyze public labor data, such as those from the Bureau of Labor Statistics Employment Projections, State Labor Market Information Offices, and regional workforce boards to identify priority sectors aligned with community needs and the school's mission. Engage industry interest holders early to assess pathway feasibility, curriculum relevance, certifications, and long-term viability.
- Clearly articulate proposed pathways and outcomes for students, families, partners, and authorizers. This should include anticipated credential opportunities, industry certifications, and connections to postsecondary programs and workforce demand.
- Develop elective classes that align with each pathway so that students can explore career interests while still meeting academic graduation requirements.
- Integrate career content into core academic courses. For example, mathematics courses may include engineering or data analysis applications, while English courses may incorporate technical writing, presentations, or research related to pathway fields.
- Develop or adapt the curriculum for each grade level to align the curriculum with the career development sequence.

## Advising and Student Support Structures

- Establish advising structures and shared language early to avoid retrofitting later. This may include creating advisory periods and career exploration curricula and promoting the use of tools such as career interest inventories or reflection journals.
- Clarify how students will be guided through exploration, reflection, and pathway selection over time.

## Staffing and Capacity Planning

- Identify staffing roles and competencies needed to implement career exposure, advising, and pathway coursework. This may include identifying pathway instructors with industry experience, counselors trained in career advising, and staff responsible for coordinating work-based learning partnerships.

## Partnership Development

- Establish relationships with business, higher education, and community partners who can advise on essential industry skills, curriculum relevance, and credential opportunities for each pathway.
- Develop work-based learning opportunities such as job shadowing, internships, mentorships, guest speakers, and industry projects that allow students to experience career fields firsthand.

## Accountability and Readiness Alignment

- Align pathway structures with existing accountability systems and graduation requirements from the outset.
- Identify early metrics for success, such as completion of career exposure activities, advising touchpoints, student reflection artifacts, and pathway readiness indicators.

- Align the program with graduation requirements and authorizer accountability expectations, ensuring that pathway participation supports students' ability to demonstrate college and career readiness.

## Stage 2: Enrollment and Operations

Once the school opens, the focus shifts to operationalizing the career development model and ensuring that students receive consistent guidance.

### Implementation of Pathways and Advising

- Implement the full K–12 progression where possible, or introduce accelerated exploration frameworks for schools serving later entry grades. For schools with only elementary grades, implement a career exposure and exploration curriculum without career pathways.
- Offer CTE courses in the lower grades. A student will not be able to complete a pathway in the lower grades but can start taking career-connected classes in middle school.
- Implement advising structures and routines that ensure students receive consistent guidance as exploration accelerates or compresses.
- Ensure that scheduling, staffing, and course availability align with pathway exploration and completion rather than constraining it.
- Establish data systems to track student exposure, engagement, reflection artifacts, and pathway readiness using mechanisms such as digital portfolios, journals, and student surveys.
- Monitor enrollment patterns, student outcomes, and partner engagement to ensure pathways remain relevant and well supported.
- Develop clear communication for families explaining how pathway exploration works and how pathway decisions will be supported over time.

## Stage 3: Sustaining and Scaling

As pathways mature, the focus shifts to continuous improvement, alignment, and the long-term sustainability of the model.

### Continuous Improvement and Data Use

- Regularly review outcomes and refine the model.
- Monitor student pathway persistence and engagement over time.
- Use pathway retention, completion, and postsecondary outcomes as leading indicators for improvement.
- Refine exploration structures and pathway offerings based on data and student feedback.
- Periodically review pathway scope and sequence, student interest, and relevance to market needs, and make disciplined decisions about expansion, refinement, or sunset as needed.

### Curriculum and Partner Alignment

- Consult regularly with industry and higher education partners to update curricula and ensure relevance to evolving labor market needs.
- Formalize expectations for partner engagement, including advisory board meetings, internship coordination, and curriculum consultation.

### Institutionalization and Governance

- Codify career pathway structures and decision-making processes into school policies, handbooks, and improvement plans.
- Identify conditions under which new pathways are added or existing pathways are retired.

### Replication and Expansion Readiness

- Prepare documentation, tools, and implementation playbooks to support replication or expansion to new sites or regions.

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## Fidelity Indicators (Nonnegotiables)

Regardless of school context, size, or grade configuration, the following elements must be in place for this pillar to be implemented successfully. These are not areas for local adaptation—see the Adaptation Guidance section below for areas that have some flexibility.

- Career development begins before high school.
- Academic learning is connected to career contexts in elementary school or as early as possible.
- Career exploration follows a clearly articulated developmental progression that connects to career pathway options.
- Students choose career pathways in high school.
- High school pathways reflect local market needs, and industry partners inform pathway design and sustainability.
- Students' pathway choices are informed by their experience, reflection, and adult guidance.
- Pathways are selected using current labor market data.
- Offerings align with postsecondary credential requirements or employment that leads to careers that pay living wages. This alignment is so students will earn credentials of value and be eligible for high-wage/high-demand jobs after graduation.
- Pathway expansion is matched to instructional and partnership capacity.

## Adaptation Guidance

While early career exposure beginning in kindergarten is ideal, the CANOPS model is designed to be adaptable. Schools serving upper elementary, middle, or high school students can implement compressed or accelerated entry points that preserve informed choice and developmental appropriateness. In addition, while CANOPS implements the World of Work framework, schools may choose different career exposure frameworks. Schools without high school grades can implement a career exposure and exploration curriculum beginning in kindergarten and not implement the career pathways.

In addition, schools implementing this model should ensure that career exploration is connected to academic learning rather than treated as a separate activity. Even when full pathways are not offered, teachers can integrate career examples, applied projects, and problem-based learning into core subjects such as math, science, English, and social studies. These connections help students understand how academic skills translate to real-world work, making learning more relevant and reinforcing the purpose of both college and career preparation. Schools may adapt how these connections occur based on grade level, staffing, and available partnerships, but the goal of linking academic content to authentic career contexts should remain consistent.

What must remain constant is the sequencing logic: Students need structured opportunities to explore, reflect, and connect learning to work before specialization occurs. For students beginning pathway implementation at later grade levels, CANOPS provides guidance on accelerated exploration and intensive exposure to ensure that they still experience informed choice.

In terms of pathway design, schools operating in different geographic or economic contexts can adapt the pathways by conducting localized labor market analyses and engaging regional employers. What must remain constant is disciplined

selection of pathways. They should be identified based on regional labor market needs, opportunity, and sustainability, not convenience or short-term demand.

## Common Pitfalls and Design Risks

- Treating pathway design and selection as static tracks rather than evolving choices
- Introducing specialization without early or sufficient career exploration
- Offering choice without advising structures to support decision-making
- Designing pathways around scheduling convenience rather than student readiness
- Offering too many pathways without sufficient depth
- Selecting pathways based on popularity rather than regional labor market needs
- Using outdated labor market data

## Connections to Other CANOPS Pillars

College and career preparation provides the foundation for all other CANOPS pillars. Experiential learning deepens exploration, and PLCs help ensure that students receive the supports they need to be successful in the pathway of their choosing. Together, these pillars create a coherent system in which students' career development is continuous, intentional, and responsive.

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