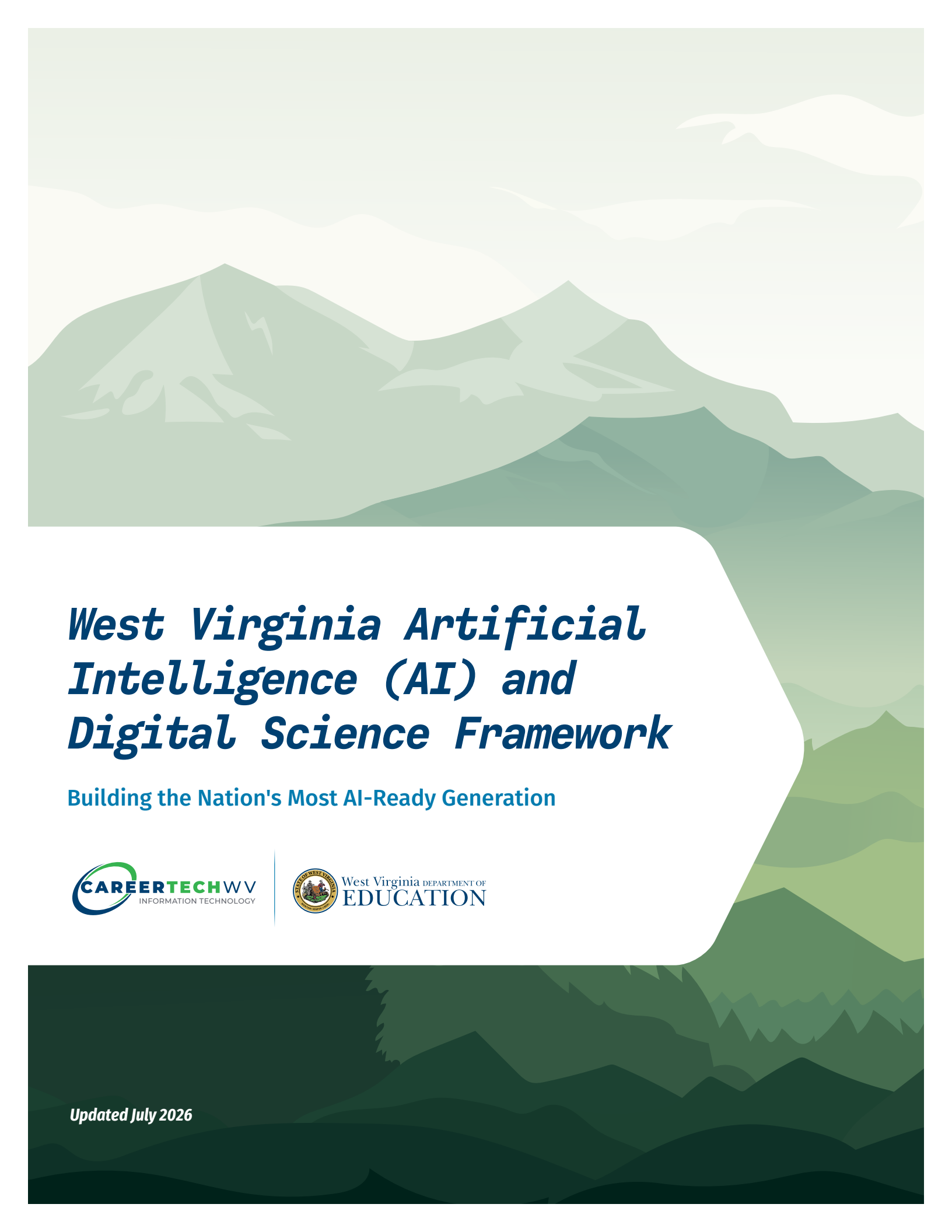




West Virginia Artificial Intelligence (AI) and Digital Science Framework

Building the Nation's Most AI-Ready Generation



West Virginia DEPARTMENT OF
EDUCATION

Updated July 2026



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2025-2026**

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Section 1 – Executive Summary

West Virginia is making a defining commitment to prepare every student for a future shaped by artificial intelligence and digital technology. The West Virginia AI and Digital Science Framework establishes a comprehensive, statewide plan for K–12 digital science and AI literacy education, equipping students with the knowledge, skills, and credentials to succeed in a rapidly evolving workforce. The goal is not simply to respond to the rise of artificial intelligence, but to become a national model for how states prepare educators and students for the future. Through coordinated policy, educator development, workforce alignment, and responsible innovation, West Virginia will demonstrate that comprehensive AI readiness is achievable in every community. A digitally credentialed workforce attracts employers, retains graduates, and builds the tax base needed to reinvest in education for the next generation.

This work is grounded in state law. Senate Bill 267 required West Virginia to make computer science instruction available across the public school system. House Bill 2411 strengthened that commitment by requiring one credit of computer science for students entering ninth grade in 2027–28. House Bill 5387 proposed replacing the stand-alone requirement with a computer literacy proficiency requirement; as of the 2026 session, it remained in committee. This framework remains aligned to the broader state commitment to universal digital science education regardless of final statutory form.

The framework operates through two connected statewide tracks. The Educator Track is built on PAiNT (Pedagogical AI for New Teaching), a three-tier professional development model in which the state trains county-assigned AI Mountaineers who deliver training to teachers and administrators across all 55 counties. The Student Track provides a structured K–12 continuum beginning with TechLabs in elementary school, advancing through Exploring Digital Science in middle school, and culminating in high school career pathways, industry-recognized credentials, Classroom 2 Career apprenticeships, and postsecondary transitions.

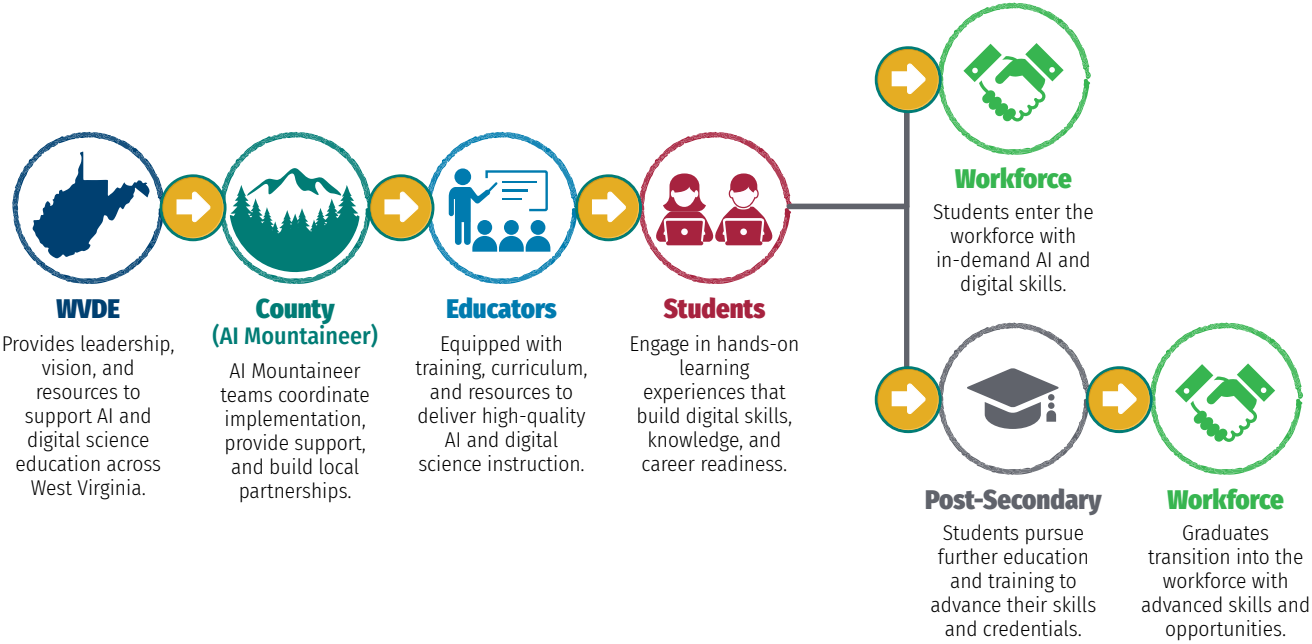
Three Statewide Commitments:

1. **Student Access** – Every student will have access to AI Literacy learning experiences and Digital Science instruction before graduation.
2. **Educator Capacity** – Every county will sustain local AI training capacity through a train-the-trainer model, governed by a commitment to transparency, human oversight, and privacy protection at every level of implementation.
3. **Workforce Alignment** – Every approved pathway will connect to employer demand, postsecondary alignment, and portable credentials.

West Virginia’s strategy is built for comprehensive statewide reach. It does not assume that digital leadership belongs only to well-resourced districts or established markets. The AI Mountaineer model, universal credential access, work-based learning partnerships, and county-level delivery structure are designed so that students in rural schools have the same access to Digital Science opportunity as students anywhere in the state.

The framework is supported through state computer science appropriations, Perkins V Federal Funding, CTE Vocational Aid, and partner contributions. It is further supported by a governance structure led by the West Virginia Department of Education’s (WVDE) internal stakeholders, advised by a statewide Digital Science Advisory Council, and implemented locally through county teams and school leadership.

When fully implemented, this framework will produce a self-sustaining educator development system, a statewide credentialed student pipeline, stronger postsecondary alignment, deeper employer engagement, and a durable economic development asset for West Virginia. The state’s objective is not only to respond to change, but to lead as a rural model for AI readiness, workforce development, and Digital Science education.



Section 2 – Vision, Purpose, and Policy Foundation

Vision

Every West Virginia student graduates AI-literate, digitally fluent, and future ready — equipped with the knowledge, skills, credentials, and experiences to thrive in a rapidly evolving economy and contribute as informed, responsible citizens in their communities, workplaces, and society. Every West Virginia educator has the training and support to make that possible. By 2035, West Virginia aims to be recognized nationally as a state where Digital Science education is universal, educator capacity is self-sustaining, and credentialed graduates drive growth in every region of the state.

Purpose

This framework establishes a statewide structure for Digital Science policy, educator development, student learning, credential attainment, partnership engagement, funding, and accountability. It serves the WVDE, the West Virginia Board of Education, county administrators, legislators, higher education partners, community partners, and employers by defining how West Virginia will implement Digital Science and AI readiness at scale.

Digital Science is not intended to create a generation of computer scientists. It is intended to ensure every student can understand, evaluate, and apply digital technologies responsibly regardless of career choice. This includes the ability to think critically about AI-generated content, navigate digital information with media literacy, and make sound decisions in an environment where technology increasingly shapes civic, professional, and personal life. Responsible technology use is not a separate competency, it is woven into every level of this framework.

Definition of Digital Science

Digital Science is the statewide term used throughout this framework to describe the evolving scope of computer science, AI literacy, data reasoning, cybersecurity awareness, media literacy, and the practical application of digital technologies. AI is not treated as a separate add-on; it is embedded throughout Digital Science learning and implementation, including how students evaluate information, understand algorithmic decision-making, and engage responsibly with technology as citizens and future professionals.

Policy Foundation

Policy Foundation	Statewide Relevance
Senate Bill 267 (2019)	Required the West Virginia Board of Education to define appropriate computer science instruction at each programmatic level and required the WVDE to develop and offer professional development opportunities.
House Bill 2411 (2025)	Established a one-credit computer science graduation requirement beginning with students entering Grade 9 in 2027–28; directed the West Virginia Board of Education to maintain an approved course list and support licensing flexibility.
House Bill 5387 (2026) Status Note	Proposed replacing the stand-alone requirement with a computer literacy proficiency framework while preserving advanced computer science pathways; official 2026 session records show the bill as introduced and referred to committee.
West Virginia Board of Education Policy Alignment	All pathways, courses, credentials, professional development structures, and future course additions operate within established West Virginia Board of Education approval and Career and Technical Education (CTE) program structures.

Statewide Vision for Leadership

West Virginia’s ambition is to demonstrate that comprehensive AI readiness is achievable in every community, including rural states and districts often excluded from national technology conversations. Informed citizenship in the digital age requires that students understand not only how to use technology, but how to evaluate it, question it, and apply it with integrity. A digitally prepared workforce is a strategic economic asset that helps attract employers, retain graduates, and expand opportunity in every county.

Framework Design Principles

- **Universal Access** – Every student has access to Digital Science learning and recognized credentials.
- **Workforce Relevance** – Pathways, credentials, and partnerships align to employer demand and postsecondary opportunity.
- **Feasibility** – The framework must work in all school and district settings.
- **Responsible AI** – AI use must be transparent, accountable, equitable, and human-led, with AI decision-making literacy embedded in student learning at every level.
- **Informed Citizenship** – Students develop the media literacy and critical thinking skills needed to participate responsibly in a society shaped by digital technology.
- **Sustainability** – Delivery systems, funding, and annual review cycles are designed for long-term operation rather than one-time implementation.

WEST VIRGINIA AI & DIGITAL SCIENCE FRAMEWORK

BUILDING THE NATION'S MOST AI-READY GENERATION

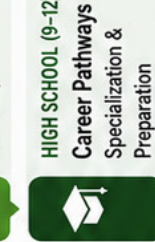
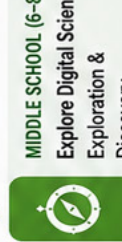


WVDE

Provides leadership, vision, and resources to advance AI and Digital Science across West Virginia.



PAINT PROGRESSION



AI MOUNTAINEERS

County leaders trained by WVDE to deliver PAINT and support local implementation.

EDUCATORS

Educators grow their AI expertise through PAINT and apply it to transform learning.

STUDENTS

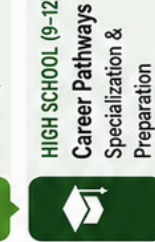
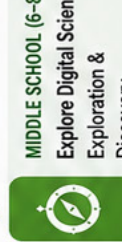
All students engage in a K-12 continuum that builds AI literacy and leads to career pathways.

CREDENTIALS

Stackable credentials validate skills and open doors to college and careers.

WORKFORCE

Students transition seamlessly into high-demand careers that strengthen West Virginia's economy.



POWERED BY STRONG PARTNERSHIPS

TECH INDUSTRY PARTNERS

Providing tools, training, platforms, credentials, and workforce insights.



HIGHER EDUCATION PARTNERS

Dual credit, articulation agreements, and aligned degree pathways.



BUSINESS & COMMUNITY PARTNERS

Work-based learning, mentorship, and real-world opportunities for students.



ECONOMIC DEVELOPMENT PARTNERS

Aligning education and workforce strategies to grow West Virginia's innovation economy.



AI LITERATE

Understand AI and use it responsibly.



DIGITALLY FLUENT

Apply technology confidently.



WORKFORCE READY

Build real-world skills and gain experience.



CREDENTIALLED FOR SUCCESS

Earn credentials that open doors.

Section 3 – Governance, Responsible AI, and Partnerships

Governance Structure

The WVDE’s internal stakeholder group is the primary steward of this framework. Authority is distributed across state, county, and school levels so that statewide consistency and local implementation capacity operate together.

Level	Primary Responsibilities
WVDE Internal Stakeholders	Maintains the framework; oversees statewide rollout; manages funding alignment; approves course and credential adjustments consistent with West Virginia Board of Education processes; maintains accountability systems; convenes the Digital Science Advisory Council.
Digital Science Advisory Council	Reviews pathways, credential value, equity gaps, emerging technologies, and statewide implementation needs; provides an annual report to the State Superintendent.
County Implementation Teams	Designate AI Mountaineers; manage local rollout; track participation and attainment; maintain business and industry relationships; report barriers to the WVDE.
Schools	Schedule educator participation; ensure student access; support pathway implementation and work-based learning; validate Summit School Award documentation.

The Digital Science Advisory Council includes representation from K–12 education, higher education, industry, workforce development, and economic development. Advisory Council recommendations are advisory in nature; final authority over framework decisions remains with the WVDE and the West Virginia Board of Education.

Decision Authority

- Course pathway alignment changes require WVDE approval through established West Virginia Board of Education processes.
- Credential framework changes require Advisory Council review and WVDE approval.
- PAiNT structural changes require WVDE review with advisory input.
- Legislative or emergency adjustments may be issued by the WVDE with subsequent advisory notification.

Statewide Implementation Architecture

The framework is implemented through a criteria-driven, phased architecture with three strategic phases: foundation building in 2026–27, statewide expansion through 2027–29, and long-term sustainability from 2030 forward. Advancement is based on readiness indicators rather than calendar dates alone.

Operational milestones, annual priorities, and detailed timelines are maintained in Appendix G so that the body of the framework remains stable while implementation details evolve annually. The Near-Term Strategic Horizon spans 2026–2031; the Long-Term Vision targets 2035.

Readiness indicators for each phase include: Foundation — AI Mountaineer coverage, PAiNT Tier 1 launch, platform readiness, initial pilots, and postsecondary partnership initiation; Expansion — Tier 2 and Tier 3 progression, K–8 growth, Data Science and AI pathway development, credential attainment growth, and postsecondary agreements; Sustainability — renewal at scale, statewide operation of all pathways, normalized funding, and published state leadership models.

Civic Readiness and the Responsible AI Framework

At the heart of West Virginia’s Responsible AI Framework is a commitment to civic readiness. Students should graduate not only able to use AI tools but equipped to think critically about their limitations, risks, and opportunities as informed, responsible citizens. This expectation is not confined to a single course or checkpoint; it is woven into every section of this framework, from instruction and professional development to administration and student learning. The framework is grounded in four core principles and accompanied by clear governance expectations: any AI tool used with students must comply with the Family Educational Rights and Privacy Act (FERPA), Children’s Online Privacy Protection Act (COPPA) where applicable, and West Virginia student data protections; AI-assisted grading, feedback, and recommendations must remain subject to educator review and override; and vendor participation does not confer governance authority over curriculum, credentials, assessment, or procurement. Responsible AI is not an add-on. It is the foundation on which every other element of this plan is built.

Principle	State Standard
Transparency	AI tools and AI-supported processes used for instruction or administration are documented and disclosed in accordance with local and state expectations.
Human Oversight	Educators retain professional authority. AI may support but may not replace educator judgment in instruction, assessment, or administration.
Adaptability	The WVDE will review the responsible AI framework annually and revise guidance as tools, law, and practice evolve.

Partnership Model

The framework is supported by diversified partnerships with employers, higher education institutions, and capacity partners. Partners contribute expertise, credential pathways, postsecondary alignment, work-based learning, and technical resources; curriculum authority and student-centered decision-making remain with West Virginia.

Partner Type	Primary Role
Employer and Industry Partners	Validate pathway relevance, provide work-based learning, advise on workforce demand, and give feedback on graduate readiness.
Postsecondary Partners	Create articulation agreements, dual enrollment, micro-credential alignment, and pathway continuation into degree and certificate programs.
Resource and Capacity Partners	Provide training content, platforms, technical resources, and implementation support under written nonexclusive agreements.

County teams and AI Mountaineers are expected to activate local employer relationships, connect students to practical experiences, and coordinate local opportunity maps for pathway students. The WVDE will provide a partnership toolkit, agreement templates, and regional support structures to assist counties that need help building partner networks. All formal partnerships require written agreements with defined roles, terms, renewal conditions, and exit provisions. A Founding Partner designation recognizes organizations that provide early, substantial, and sustained commitment to the framework's launch and statewide infrastructure.

Partnership Standards

- Partnerships must be diversified by geography, industry sector, and organizational size.
- Small and mid-size West Virginia employers are prioritized alongside national partners to strengthen local opportunity.
- Counties are expected to maintain at least three active business and industry partnerships, with direct WVDE support where local activation is difficult.
- All formal partnerships require written agreements with defined roles, terms, renewal conditions, and exit provisions.

Section 4 – Educator Development Framework (PAiNT)

Purpose

PAiNT is West Virginia's statewide system for developing educator and administrator capacity in Digital Science and AI Literacy through locally sustained delivery. The framework's success depends on educator readiness, and PAiNT is designed to meet educators where they are, build confidence over time, and issue verifiable credentials with professional value.

PAiNT operates across three tracks: the Educator Lane, Administrator Lane, and AI Mountaineer Lane. Progression advances through three tiers: Basecamp (Pioneer), Trailhead (Trailblazer), and Ridgeline (Ridge Climber), with a Summit designation awarded upon full-progression completion. Credentials are issued as Pioneer, Trailblazer, and Ridge Climber badges at each tier. Delivery combines online learning with WVDE-aligned local training and validation conducted through county-assigned AI Mountaineers. Schools where at least 80% of instructional staff achieve Ridge Climber status become eligible for the Summit School Award.

Three PAiNT Tracks

Lane	Audience	Purpose
Educator Track	Classroom teachers across grade levels and content areas	Builds classroom-level AI Literacy, Digital Science integration, and instructional practice.
Administrator Track	Principals and district leaders	Builds leadership capacity in AI strategy, governance, implementation, data use, and educator support.
AI Mountaineer Track	County or district implementation leaders	Includes full educator progression plus advanced facilitation, coaching, validation, and community engagement competencies.

The AI Mountaineer Model

The AI Mountaineer is the local delivery anchor of the framework. Each county designates at least one AI Mountaineer, and two are strongly encouraged where feasible to support redundancy and continuity. AI Mountaineers are trained and credentialed by the WVDE before activation and renew annually. They serve as trainer, coach, implementation liaison, Summit School Award support lead, and community AI Literacy connector. [Detailed role expectations appear in Appendix C.](#)

Three-Tier PAiNT Progression

Tier	Focus	Credential	Statewide Purpose
Basecamp	Foundational AI Literacy, core concepts, responsible use, and introductory classroom application	Pioneer	Establishes baseline readiness for broad participation.
Trailhead	Applied AI integration, workflow design, privacy protections, and productive instructional use	Trailblazer	Moves educators from awareness to regular instructional application.
Ridgeline	Advanced classroom integration, leadership practice, data-informed use, observation, and artifact validation	Ridge Climber	Recognizes advanced proficiency and supports schoolwide implementation.

Summit Recognition and Summit School Award

Summit status is awarded to educators who complete all three PAiNT tiers and all associated validation. Summit-credentialed educators are priority candidates for AI Mountaineer responsibilities, model classrooms, mentoring roles, and future statewide leadership opportunities.

When 80% of a school's instructional staff and administrators have individually reached the summit by completing the Ridge Climber badge, the school becomes eligible to apply for the Summit School Award, a state level recognition of excellence in AI. This award is a signal of sustained building-level integration rather than a compliance exercise, reflecting a schoolwide culture in which AI practices are embedded, continuously applied, and meaningfully advancing teaching and learning.

[*Participation targets and annual milestones for PAiNT are consolidated in Section 7.*](#)

Section 5 – Student Learning Framework and Career Pathways

Student Framework Overview

The student framework establishes a continuous K–12 progression in Digital Science and AI Literacy. It is designed for all students, not only pathway concentrators. The framework begins with awareness and exploration, advances through applied learning and credential attainment, and culminates in Classroom 2 Career outcomes.

The Digital Science Graduate Profile

Every West Virginia graduate should leave school with clearly defined competencies reflecting who they are, what they know, what they can do, and what they have earned.

Graduates are ethical, informed, and responsible users of digital technologies who approach AI with critical awareness and human judgment. They understand that technology is designed and governed by people, and they carry a personal responsibility to use it with integrity.

Graduates know core digital science concepts, including artificial intelligence, data systems, and digital technologies. They recognize the ethical implications of technology use, including issues related to bias, privacy, and security, and understand the critical role humans play in the design, implementation, and oversight of technological systems.

In practice, graduates can apply these understandings through meaningful action. They evaluate AI output, identify limitations, recognize bias, and apply human judgment in technology-driven contexts. They employ computational thinking to solve problems, communicate their digital skills effectively across contexts, and propose informed, technology-driven solutions aligned to their chosen pathway.

Where applicable, graduates have earned recognized credentials, micro-credentials, or badges that validate their learning and signal workforce or postsecondary readiness.

K–12 Learning Continuum

West Virginia's K–12 Learning Continuum for Digital Science establishes a cohesive, statewide progression that ensures all students build knowledge, apply skills, and access meaningful opportunities in AI literacy and digital innovation from early learning through graduation.

Beginning in Grades K–5, students engage in the TechLabs model, where the primary focus is on awareness and foundational skill development. Learners explore technology through hands-on experiences that include block-based coding exploration, unplugged computational thinking activities

such as sequencing and pattern recognition, and introductory AI awareness exercises such as identifying how recommendation systems make suggestions. Digital citizenship is woven throughout. AI literacy at this stage helps students understand basic concepts and responsible use in age-appropriate ways.

In Grades 6–8, students transition into the Explore Digital Science model, where they deepen their engagement through structured exploration. This phase emphasizes coding, digital creativity, and exposure to emerging technologies, while strengthening connections to potential career pathways. Students begin to evaluate AI output more critically, examining how these tools work, where they fall short, and what human judgment must supply. AI literacy at this stage is exploratory, allowing learners to investigate, experiment, and build confidence in applying digital tools and concepts.

By Grades 9–12, students enter a more advanced phase through Digital Science pathways and universal access credential opportunities. This stage centers on applied learning, specialization, and preparation for postsecondary success. Students engage in pathway-aligned coursework, work-based learning experiences, and opportunities to earn industry-recognized credentials. AI literacy is applied: students demonstrate the ability to evaluate AI output, recognize bias and limitations, and use technology strategically to solve complex problems and contribute to real-world solutions.

A defining feature of this continuum is the commitment to universal access. Regardless of pathway enrollment, school size, or program availability, all students must have access to high-quality Digital Science and AI literacy experiences. These experiences are designed to function across devices and networks while meeting accessibility requirements, ensuring equitable participation. Students are provided opportunities to earn recognized badges, micro-credentials, or certifications that validate their skills and learning.

Within the high school experience, West Virginia maintains four Digital Science career pathways, each designed to support specialized skill development aligned to workforce and postsecondary expectations. While full course sequences are detailed in supporting materials, each pathway serves a distinct strategic purpose, providing students with opportunities to deepen technical expertise, apply learning in authentic contexts, and transition successfully into college, careers, or advanced training in digital science fields.

Together, this continuum ensures that every West Virginia student progresses through a structured, equitable, and future-focused system of learning that builds from foundational awareness to applied expertise in Digital Science and AI literacy.

Pathway	Workforce Demand Summary	Representative Courses	Example Credentials	Postsecondary Connections	Career Outcomes
Software and Application Development	Supports high-demand software, web, and application development roles and is relevant across energy, healthcare, agriculture, public sector modernization, and remote work.	Foundations of Programming, Coding App and Game Design, Object-Oriented Languages, AP Computer Science.	AP Computer Science credentials and future aligned software development certifications.	Computer Science, Software Engineering, Information Technology, AP credit, and future dual credit agreements.	Software Engineer, Application Developer, Web Developer, Game Designer, UX Designer, Systems Analyst, Technology Entrepreneur.
Cybersecurity and Networking	Addresses fast-growing cybersecurity and network workforce needs in government, healthcare, finance, energy, and critical infrastructure.	CISCO Networking, Networking+, Cybersecurity, Security+, Linux Essentials.	CompTIA Network+, Security+, CISCO-aligned credentials, Linux Essentials.	Cybersecurity, Networking, and Information Assurance programs with articulation and dual credit potential.	Network Administrator, Cybersecurity Analyst, Security Operations Specialist, Network Engineer, IT Security Technician, Systems Administrator.
IT Support and Cloud Infrastructure	Serves broad demand for technical support, systems administration, and cloud infrastructure across public and private employers statewide.	Technical Computer Applications, Computer and Information Science, CompTIA A+, Server+.	CompTIA A+ Core 1 and Core 2; Server+; aligned workplace/cloud credentials.	Information Technology, Computer Support, and Cloud Systems programs.	IT Support Specialist, Help Desk Technician, Systems Administrator, Cloud Infrastructure Technician, Server Administrator, Network Support Technician.
Data Science and AI (Emerging Pathway)	Addresses urgent demand for data analysis, AI application, and data-informed problem solving across all major sectors of West Virginia's economy.	Courses in development; interim access through universal credentials and existing AI-related coursework.	Credential targets to be defined through Year 2 pathway development and annual review.	Postsecondary alignment in data science, analytics, AI, and related fields under development.	Data Analyst, AI Specialist, analytics and applied data roles, plus entrepreneurial use of data tools.

The Data Science and AI pathway carries an emerging designation by design. Initial implementation proceeds through universal credentials, existing approved coursework, and pilot experiences while the WVDE develops a formal state-approved course sequence.

Simulated Workplace and Classroom 2 Career

Every high school pathway is built around two interconnected components that move students from the classroom to the career. The first is Simulated Workplace, which transforms the classroom itself into a functioning work environment where students operate under real industry expectations, professional norms, and workplace standards. This is not a supplemental activity but a foundational element embedded into every pathway, ensuring that students are practicing and developing skills within the context of actual industry demands from day one.

The second component, Classroom 2 Career, takes students beyond the Simulated Workplace environment and places them directly into the real world of work. It serves as the bridge from pathway participation to credential attainment, postsecondary advancement, and employment by connecting students to internships, apprenticeships, job shadowing, capstone experiences, and other career readiness opportunities. Through Classroom 2 Career, students earn advanced and stackable credentials, build employer-recognized evidence of skill, and develop meaningful connections to local economic development and entrepreneurship pathways.

Together, Simulated Workplace and Classroom 2 Career create a seamless progression where students first master the environment of work and then step into it, arriving at the job site not as newcomers but as prepared, credentialed, and career-ready professionals.

[*Detailed competency frameworks are maintained in Appendix D. Full pathway course sequences are maintained in Appendix F.*](#)

Section 6 – Sustainability and Credential Strategy

Funding Model

The framework is built on a diversified but state-led funding model. State computer science appropriations serve as the core funding source, ensuring that West Virginia retains ownership and control over program direction, credential decisions, and statewide implementation standards. Perkins V, CTE Vocational Aid, and partner contributions extend and accelerate implementation without creating dependency on any single external stream.

The train-the-trainer structure at the heart of PAiNT is a deliberate cost-control and scalability strategy. By investing in AI Mountaineer capacity at the county level, the framework generates a self-renewing delivery infrastructure that does not require repeated central expenditure for each new cohort of educators. This design makes statewide reach economically sustainable over time.

Funding Sources

State computer science appropriations support AI Mountaineer operations, PAiNT infrastructure, K–8 framework development, credential fee support, pathway development, data reporting, and statewide coordination.

Perkins V funds pathway implementation, work-based learning coordination, local delivery costs, professional development, equipment, credential fees, and postsecondary alignment.

CTE Vocational Aid supports course delivery infrastructure, staffing, and district-level sustainability, particularly in rural and small districts.

Federal grants, competitive grants, and philanthropic investments support community engagement, the AI Mountaineer community outreach through libraries, extension services, workforce organizations, and other local partners, implementation research, and accelerated innovation beyond core K–12 operations.

Partner contributions provide platform access, training content, credential infrastructure, in-kind support, and supplemental innovation capacity under written nonexclusive agreements.

Sustainability Strategy

The funding model is structured in three phases aligned to the 2026–2031 Near-Term Strategic Horizon and the 2035 Long-Term Vision.

- **Infrastructure Investment (2026-28)** – Onboarding, content creation, platform setup, pilot development, and statewide launch. State appropriations carry the primary load; partner contributions accelerate capacity.
- **Normalization (2028-30)** – Local Perkins V absorbs a greater share of local implementation costs. State funding shifts toward oversight, renewal, and targeted expansion. The AI Mountaineer network operates with increasing independence.
- **Steady State (2030 and Beyond)** – Core operations sustained through state appropriations, Perkins V, and Vocational Aid. Grants and partner contributions expand the system rather than sustain it. The framework is a permanent feature of West Virginia public education.

This model is sustainable because it invests in people rather than programs. By developing AI Mountaineers, educator leaders, and local implementation capacity, the framework creates a self-renewing statewide network that becomes stronger over time. State investment gradually shifts from implementation toward quality assurance, research, innovation, and continuous improvement. As participation expands and local expertise grows, Digital Science becomes embedded within the normal operating structure of West Virginia public education rather than dependent upon temporary initiatives or external funding.

Statewide Credential Strategy

West Virginia’s credential strategy ensures that Digital Science learning translates into recognized, portable value. Credentials are designed to stack over time into a student-owned digital portfolio, accessible across all 55 counties and all districts, including charter and specialized schools.

Credential Stacking Framework

Tier	Purpose	Typical Audience	Examples
Tier 1 – Universal Credentials	Establish baseline Digital Science and AI Literacy competency for all students.	All students, K–12.	Platform-issued badges, micro-credentials, AI Literacy and digital science badges.
Tier 2 – Workforce-Ready Credentials	Validate pathway-specific technical skills recognized by employers.	Primarily pathway students in Grades 10–12.	CompTIA A+, Network+, Security+; CISCO-aligned credentials; AP Computer Science examinations; other pathway-aligned certifications.
Tier 3 – Advanced Credentials	Recognize specialized and higher-value technical proficiency.	Students who advance beyond entry-level pathway credentials.	Server+ and future advanced cybersecurity, software, cloud, or AI-aligned certifications.
Tier 4 – Postsecondary-Aligned Credentials	Create direct bridges between high school achievement and college credit, degree progression, or prior learning recognition.	Students pursuing postsecondary education.	AP credit, dual enrollment, articulation agreements, postsecondary-recognized micro-credentials, digital credential wallet documentation.

Credential Principles

- Credentials must carry employer, postsecondary, or documented workforce value.
- Credentials must be accessible to students across all counties.
- Credentials must stack into larger portfolios over time.
- Credentials must be reviewed annually for relevance and retained only when they continue to meet demand and alignment criteria.
- Credential selection prioritizes employer recognition and labor-market relevance across West Virginia's key economic sectors.

Postsecondary Alignment

West Virginia will align high school Digital Science credentials to postsecondary opportunity through three mechanisms: Advanced Placement in Computer Science and related offerings; Dual Enrollment with public universities and community and technical colleges; and Articulation Agreements recognizing pathway completion and credential attainment for college credit or advanced standing.

Digital Credential Wallet

The WVDE will support digital credential wallet infrastructure so that students can organize, verify, and share their full portfolio of Digital Science badges, certifications, and postsecondary-aligned achievements. The wallet is intended to remain student-owned beyond graduation for use in employment, higher education, and continued credential advancement.

Annual Credential Review

The Digital Science Advisory Council and the WVDE will review the statewide credential framework annually against four criteria: employer demand, postsecondary recognition, student attainment feasibility, and alignment to the K–12 competency progression. Credentials that no longer meet standards may be replaced through the annual review cycle, with adequate transition time for students already in progress.

Section 7 – Accountability, Metrics, and Continuous Improvement

Accountability Purpose

Section 7 is the authoritative source for all statewide performance targets, benchmarks, and outcome measures. Every metric referenced elsewhere in this framework is consolidated here. The accountability system is designed to show whether implementation is reaching students and educators, whether the framework is improving outcomes, and where the WVDE should direct support. It is intended to inform continuous improvement, not rank counties or punish districts for structural barriers.

Planning Horizon

All targets are organized within two planning horizons: the Near-Term Strategic Horizon (2026–2031) and the Long-Term Vision (2035). Within the Near-Term Horizon, benchmarks are set at Year 1 (2026–27), Year 3 (2028–29), and Year 5 (2030–31). The 2030–31 targets represent the primary statewide accountability standard for this planning cycle.

Educator Development Targets

Indicator	Year 1 Benchmark	Year 3 Benchmark	Year 5 Target
AI Mountaineers onboarded	55+	55+ with renewal	All active and renewed
Pioneer completion	25%	50%	75%+
Trailblazer completion	10%	25%	50%+
Ridge Climber completion	—	25%	50%+
Summit-designated Educators in every county	—	All 55 counties	Sustained
Summit School Award-eligible schools	—	15+	30+

K-12 AI Student Targets

Indicator	Year 1 Benchmark	Year 3 Benchmark	Year 5 Target
Universal Digital Science credential access availability	30 counties	55 counties	Sustained
Elementary School-TechLabs districts	5	20	40+
Middle School-Explore Digital Science districts	5	20	40+
High School-Digital Science implementation	5	20	40+
High School-Data Science and AI pathway course development	—	Pilot Launched	Fully Established

Credential Attainment Targets

Indicator	Year 1 (2026–27)	Year 3 (2028–29)	Year 5 (2030–31)
Students earning Tier 1 Universal Credentials	Baseline established	Significant growth	All students have access; attainment tracked
Students earning Tier 2 Workforce-Ready Credentials	Baseline established	Growth in all active pathways	Broad attainment across all four pathways
Students earning AP, dual enrollment, or articulated college credit	Agreements initiated	10+ counties with active access	20+ counties with active access
Digital credential wallet adoption	Platform identified	Pilot active	Statewide availability

Partnership and Postsecondary Targets

Indicator	Year 1 (2026–27)	Year 3 (2028–29)	Year 5 (2030–31)
Counties with 3+ active business and industry partnerships	10+	35+	All 55 counties
Work-based learning opportunities available statewide	Baseline established	Expanded across regions	Statewide availability in all pathways
Postsecondary articulation or dual enrollment agreements active	Agreements initiated	10+ agreements	20+ agreements
Community AI Literacy outreach activations (libraries, extension)	Pilot in select counties	Active in 20+ counties	Active statewide

2030–31 Statewide Goals (Primary Accountability Standard)

The following represent West Virginia’s primary statewide commitments for the Near-Term Strategic Horizon. These align to the four framework commitments established in Section 1.

- **Student Access** – All students in all 55 counties have access to approved Digital Science credentials.
- **Educator Capacity** – At least 50% of eligible educators statewide reach the summit by obtaining Ridge Climber status with representation in every county.
- **Workforce Alignment** – Every county provides students with opportunities for digital science awareness, exploration, or career pathway development.
- **Equity** – No significant gaps remain between counties, school types, or student populations in access to Digital Science instruction and universal credentials.

2035 Long-Term Vision Markers

West Virginia is recognized nationally as a rural model for AI-ready education. Digital Science education is a permanent, normalized component of public education statewide. Educator capacity is self-sustaining through the AI Mountaineer network. A credentialed graduate pipeline drives economic growth in every region of the state.

Monitoring, Reporting, and Continuous Improvement

Progress is tracked through a public dashboard organized into three views: Statewide Overview, District-Level, and Trend. The dashboard is a support tool, not a ranking system, and student-level privacy protections are maintained throughout.

The WVDE will conduct an annual review examining pathway relevance, emerging technology developments, credential value, educator participation, student attainment, equity indicators, partner feedback, and implementation barriers. Findings inform updates to Appendix G, credential revisions, and future policy recommendations.

The framework will incorporate stakeholder feedback loops at multiple levels: educator and administrator feedback through the AI Mountaineer network, county reporting through Implementation Reflection templates (Appendix I), Advisory Council annual review, and postsecondary and employer input through partnership activation processes.

External evaluation will be considered as the framework matures, particularly to assess equity outcomes, credential value, and postsecondary alignment effectiveness. The WVDE will publish an annual report summarizing performance against goals, county implementation status, credential attainment, equity findings, partner activation, research insights, and year-ahead priorities.



APPENDICES

WEST VIRGINIA AI AND DIGITAL SCIENCE TRAINING MODEL



TIER 1

PIONEER

Copilot Online Trainings:

- Introduction to AI Literacy
- Introduction to AI Concepts
- Getting Started with Copilot
- Prompting 101
- Copilot Academy

Paint In-Person Training:

- Copilot Teach
- Use Cases for Classroom Apps
- Workforce Preparedness
- Human Review and Fact Checking



BASECAMP



TIER 2

TRAILBLAZER

Copilot Online Trainings:

- Introduction to Agents
- Multi-Step Prompting
- Role-Based Prompting
- Protecting Student Data & Privacy
- Project-Based Learning

Paint In-Person Training:

- Agent Creation for Classroom Uses
- Agent Creation for Efficiency and Data Analysis
- Shared AI Workflows



TRAILHEAD



TIER 3

RIDGE CLIMBER

Copilot Online Trainings:

- Unit Design
- Data Dashboards
- Research Companions
- Inquiry Tools
- Customized AI Tools

Paint In-Person Training:

The AI Mountaineer will perform walkthroughs, classroom visits, and Artifact Reviews to determine the completion of Trailblazer objectives and aid in completion of school application for AI Apex status.



RIDGELINE



Summit School Award

Excellence in Digital Science

Schools will receive this distinction and award when 80% of their teachers have completed the **Ridge Climber** badge certification.



SUMMIT



West Virginia AI and Digital Science Pathway



Building West Virginia's Digital Future

Appendix C – AI Mountaineer Guide

The AI Mountaineer is the county or district implementation leader for PAiNT and the local connector between the WVDE, schools, educators, and community partners.

Responsibility Area	Summary
Training Delivery	Delivers WVDE-aligned local PAiNT sessions and supports cohort participation.
Coaching and Support	Serves as first point of contact for educators and administrators implementing PAiNT.
Validation	Supports Ridge Climber review and Summit School Award documentation.
County Coordination	Works with CTE administrators and county teams on rollout, tracking, and reporting.
Community Engagement	Supports AI Literacy outreach through libraries, extension offices, and community organizations where activated.

AI Mountaineers are selected by county leadership, approved by the WVDE, trained prior to rollout, and renewed annually through WVDE structures. Counties are encouraged to identify two where feasible.

Appendix D – PAiNT Tier Details

Tier	Primary Focus	Validation	Output
Basecamp	AI foundations, responsible use, introductory classroom application.	Online completion plus local learning session.	Pioneer badge.
Trailhead	Applied classroom integration, AI workflows, data privacy, team practice.	Online completion plus local training application.	Trailblazer badge.
Ridgeline	Advanced integration, instructional leadership, data-informed use, artifact review.	Online completion, local validation, and walkthrough/artifact review.	Ridge Climber; Summit Attainment

Appendix E – Student Competency Framework

Grade Band	Competency Priorities
K–5 (TechLabs)	Recognize AI as human-made technology; distinguish AI-generated from human-generated content; understand data in simple terms; model basic digital citizenship and computational thinking.
6–8 (Explore Digital Science)	Explain how AI learns from data; evaluate AI output for accuracy and bias; use AI tools responsibly; connect Digital Science to careers and West Virginia industries.
9–12 (Pathways and Universal Access)	Use AI tools in professional or creative contexts; analyze ethical, legal, and practical implications; solve real-world problems using Digital Science skills; communicate competencies and credentials through a portfolio.

Appendix F - Career Pathway Course Sequence

 Software and Application Development SAD Pathway 10 Courses	 Cybersecurity and Networking CyberNet Pathway 9 Courses
Foundations of Programming Part 1 Computer Science / Programming Coding, App and Game Design 1 Coding, App and Game Design 2 Object-Oriented Languages Web Page Publishing AP Computer Science Applications AP Computer Science Principles Concepts of Gaming Game Design (virtual)	CISCO Networking 1 CISCO Networking 2 CISCO Networking 3 CISCO Networking 4 Networking+ Cybersecurity Security+ Linux Essentials Intro to Network Cabling — Fiber Optic
 IT Support and Cloud Infrastructure IT Support Pathway 6 Courses	 Data Science and AI DS and AI Pathway – Year 2 Development Emerging Pathway
Technical Computer Applications 1 Technical Computer Applications 2 Computer and Information Science CompTIA A+ Core 1 CompTIA A+ Core 2 Server+	Course sequence under development. Finalization pending WVBE approval in alignment with Year 2 targets and annual review cycles. Interim access available through universal credentials and existing related coursework. Universal credentials (interim) Related coursework (interim)

Appendix G – Implementation Timeline

This appendix is a living document updated annually. The following represents the baseline implementation architecture.

- **2026–27 (Foundation):** AI Mountaineer onboarding across all 55 counties; PAiNT Pioneer launch; universal credential access activation; TechLabs and Explore Digital Science pilots; pathway communication; postsecondary partnership initiation.
- **2027–29 (Expansion):** PAiNT Tier 2 and Tier 3 growth; K–8 expansion across additional counties; Data Science and AI pathway development and West Virginia Board of Education submission; postsecondary agreements; community outreach activation where funded through NSF and competitive grants.
- **2030 and Beyond (Sustainability):** Renewal at scale; statewide operation of all four pathways; annual review cycle; public knowledge sharing and national leadership activity; long-term vision progress markers toward 2035 goals.

Formal readiness reviews occur at major phase transitions using criteria related to educator coverage, student access, partnership development, credential growth, and implementation quality.

Appendix H – Reporting Templates

Report Type	Purpose
Educator Participation Report	Tracks PAiNT participation, badge completion, and school progress toward Summit School Award.
Student Access and Credential Report	Tracks course participation, pathway concentration, and completion.
Partnership Activity Report	Tracks work-based learning opportunities and postsecondary agreements.

Appendix I – Glossary

- **AI Literacy** – The knowledge, skills, and judgment needed to understand, use, and evaluate AI tools responsibly.
- **AI Mountaineer** – A county or district implementation leader trained by the WVDE to deliver PAiNT and support local adoption.
- **Basecamp | Trailhead | Ridgeline** – The three levels of educator development within the PAiNT framework.
- **Classroom 2 Career** – The framework connecting learning experiences to credentials, work-based learning, postsecondary opportunities, and employment.
- **Digital Science** – The statewide framework encompassing computer science, AI Literacy, data reasoning, cybersecurity awareness, and practical digital application.
- **Digital Science Graduate Profile** – The statewide standard defining what every graduate should know, be able to do, and earn in Digital Science.
- **Explore Digital Science** – The middle school component of the Digital Science student learning framework.
- **PAiNT** – Pedagogical AI for New Teaching, WVDE’s three-tier professional learning system for AI integration and instruction.
- **Pioneer | Trailblazer | Ridge Climber** – The badge credentials earned through the three PAiNT levels.
- **Summit** – Recognition awarded upon successful completion of the full PAiNT progression.
- **Summit School Award** – Recognition for schools where at least 80% of educators achieve the Summit by earning the Ridge Climber badge. Schools must apply for the competitive award and maintain annual renewal requirements.
- **TechLabs** – The elementary school component of the Digital Science student learning framework.
- **Universal Access** – A commitment to statewide student access to approved Digital Science and AI Literacy credentials, regardless of pathway enrollment.

Appendix J – Advisory Council and Internal Stakeholder Representation

Digital Science Advisory Council	
Entity	Number of Representatives
Higher Education	2
County Representation	2
AI Mountaineer Representation	2
Industry Partners	2
Community Partners	2

Internal Stakeholders	
Office	Number of Representatives
Academic Support	1
CTE	2
Instructional Leadership	1
Educator Development	1
Student Enrichment and Support	1
Infrastructure and Network Operations	1
Special Education	1
Research	1



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