**Innovation Pathway and PLTW Alignment with Perkins V Requirements**

Designated **Innovation Pathway** programs generally meet many of the requirements for federal funding under Perkins V. Specific Perkins requirements that are not inherently covered by the Innovation Pathway designation criteria are outlined explicitly below. Districts using **Project Lead the Way** (PLTW) curriculum in a Perkins program also generally meet many items, and some items could be built out more explicitly to not get missed in implementation. Using Project Lead the Way curriculum in a designated Innovation Pathway program may provide a strong backbone for meeting Perkins V components.[[1]](#footnote-1)

Schools and districts should consider whether they wish to pursue federal Perkins funding as part of the designation process, bearing in mind that there are additional **reporting, performance, accountability, and monitoring** expectations associated with Perkins.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Perkins V Standard | **Innovation Pathways** | Measure for Perkins (same for IP unless indicated) | Innovation Pathways Guiding Principles | PLTW (Engineering, CS, Biomedical) – Sequence of 3 full-year courses |
| **Overarching** | Program provides **all students** with equal access to enroll in the career and technical education program.  | Designated IP programs should be structured to eliminate barriers to student participation and structured around clear and detailed student academic pathways with regard to coursework, sequencing, and experiences beyond the classroom. | There is a **program description** (including the sequence of courses) and **method** for how students become aware of and enroll in the CTE program(s), and these are **readily available.** The institution **disaggregates** CTE enrollment to ensure equal access to all and to identify possible patterns of targeting. | Equitable AccessGuided Academic Pathways | This is established in PLTW participation.  |
| **Size** | 1. Program is large enough to support a **community learning environment** with peers.
 | Not in all cases. Designated IP programs should be sufficient in size to capture economies of scale goals and to ensure long-term sustainability. | The program has **no fewer than six students in each program** (20 students in Perkins programs combined) each year for several years and may close if too few students are participating. | Equitable AccessEffective Partnerships | This is established in PLTW participation.  |
| **Scope** | 1. Program covers **all aspects of the industry[[2]](#footnote-2)** that students are preparing to enter.
 | Designated IP programs should expose students to a variety of career opportunities in an industry sector that is in demand in the regional and state economy. | For high schools, curricula are based on the Massachusetts Curriculum Frameworks and incorporates essential power-standards/sections of applicable MA Vocational Technical Education Frameworks. | Connection to Career | See notes below.  |
| 1. Program includes a **sequence of technical courses** that progress from **introductory exposure** of all aspects of an industryto **more advanced technical knowledge and skills**.
 | Yes: Allowable industry sectors are aligned with current labor market information to ensure students are learning about viable careers. MassHire boards are partners and will be a source of relevant information about the sectors. | **Technical courses** prepare students to pursue meaningful careers in a specific occupation or cluster of occupations (CVTE) or the chosen industry sector (IP), and for related postsecondary education and training.  | Guided Academic Pathways | This is established in PLTW participation.  |
| **Scope** | 1. Program includes **career planning**.
 | Yes. IP requires a personalized plan for postsecondary education, captured in MyCAP and monitored by staff.  | For high schools, curricula are based on the Massachusetts Curriculum Frameworks and career planning curricula. | Connection to Career | PLTW includes career exposure. While not required in PLTW, this item could be further developed and meet requirements of Perkins programming (for ex., through MyCAP and College and Career Advising).  |
| 1. Program includes **linkages or other coordination** from secondary to postsecondary education programs and provides **technical skill proficiency** or a **recognized postsecondary credential**.
 | Yes. At least two college level classes are required during high school, to help prepare the student for postsecondary settings. All students are expected to matriculate in a postsecondary institution, to be confirmed by staff. | **Secondary/postsecondary coordination** may come in many forms and may be in place (current/verified), under development, or proposed. These may include articulation agreements with two and/or four-year colleges; registered apprenticeship programs (if applicable); early college high school programs, dual or concurrent enrollment program opportunities, or other credit transfer agreements that provide postsecondary credit or advanced standing; and others.  | Connection to Career | This is established in PLTW participation. PLTW partners with higher education institutions throughout the nation to offer students college credit, events, scholarships, and preferential admissions. |
| 1. Program provides opportunities for students to **learn and demonstrate proficiency** in **technical skills** through **competency-based and work-based, or other applied learning**.
 | In MA, some Perkins programs are meeting this test by virtue of student completion, and technical skill proficiency is being established by program completion. This is the case where there is no relevant certificate to attain.In IP, many but not all pathways will result in attainment of at least one of the four delineated outcomes. But credential attainment during high school has not been demanded.IP requires student participation in an Internship (or capstone) program that is designed to measure competency in employability and relevant technical skills in applied settings. | The knowledge and skills to be acquired by students are published. Students receive documentation of skill attainment, at least annually. | Enhanced Student Support Connection to Career | This is established in PLTW participation. PLTW requires student participation in a Capstone program designed to measure competency in employability and relevant technical skills in applied settings.PLTW also designs and administers an End of Course (EoC) assessment to provide meaningful feedback to students, teachers and PLTW. The EOC is an added layer that allows students to demonstrate proficiency. In addition, all HSs using PLTW in MA have the opportunity to participate in virtual challenges and (normally) in-person events where students submit their work for industry feedback. |
| **Quality** | 1. Program has **organized educational** **activities** that contribute to students’ **higher-order reasoning** and **problem-solving skills** with **regular assessment** of students’ technical knowledge and skills, to provide students opportunities to increase levels of attainment.
 | Designated Innovation Pathways must have an integrated scope and sequence of courses that aligns with [MassCore](http://www.doe.mass.edu/ccte/ccr/masscore/), with at least two technical and two college level courses, plus an internship or capstone and an aligned set of career development activities. | Program materials includes higher-order reasoning and problem-solving skills and include academic knowledge. Academic curricula are based on Massachusetts ELA, Math and Science Frameworks. Academic and technical instruction may be integrated. | Guided Academic PathwaysConnection to Career | This is established in PLTW participation. PLTW courses are aligned to national standards during development. |
| 1. Program has regular **evaluation** using performance outcomes (including the measure of program quality) and **comprehensive local needs assessment**, where the results are used to make program improvements.
 | Not in all cases.While not required in IP Designation, this item could be included in IP development and meet requirements of Perkins programming.The Comprehensive Local Needs Assessment is a requirement of completing the Perkins Grant.  | Perkins Core Indicators and Comprehensive Local Needs Assessment are used to analyze results and identify improvement areas, in consultation with stakeholders and advisory group. | Effective Partnerships | Not in all cases. While not required in PLTW, this item could be further developed and meet requirements of Perkins programming. Additionally, all MA schools using PLTW receive a program dashboard that shows standardized measures of participation, access, and quality. This could be incorporated into evaluation and needs assessment.  |
| 1. Program has a review by its **advisory group or representatives from the relevant industry**, within **the last two years;** this includes consultation on the comprehensive local needs assessment.
 | Not in all cases.While not required in IP Designation, this item could be incorporated into duties of the *formal partnership* required of IP Designation.  | Program has an **advisory group** or representatives from relevant industry and postsecondary education (including registered apprenticeship programs, if applicable) which conduct regular reviews. Chapter74 programs require **Advisory Committees** as specified. | Effective Partnerships | Not in all cases. While not required in PLTW, this item could be further developed and meet requirements of Perkins programming.PLTW encourages schools to implement Partnership Teams.  |
| 1. Programs are meeting or exceeding [at 90% of] performance targets for the **Perkins V Core Indicators** across all population groups.
 | Programs adopt these measures of program quality along side any other state or local measures when accepting Perkins funding.  | Programs adopt these measures of program quality along side any other state or local measures when accepting Perkins funding.  | Effective Partnerships | Programs adopt these measures of program quality along side any other state or local measures when accepting Perkins funding. |
| 1. Program is aligned to the **labor market demand**.
 | Yes, Designated IP programs require a formal partnership with a workforce development ([MassHire](https://www.mass.gov/about-masshire)) board and or one or more employers or an employer association. | The school/college has **verified the labor market** for the program with an **advisory group** or representatives from relevant industry and postsecondary education, (including registered apprenticeship programs, if applicable), the local Workforce Investment Board **(WIB**), or **regional blueprints**. | Effective Partnerships | Yes, regional labor market blueprints identify these areas as future labor needs.  |
| **All Aspects of Industry** | The program supports the development of knowledge of all aspects of an industry, including **occupational safety and health knowledge and skills**. | Not in all cases.While not required in IP Designation, this item could be included in IP development and meet requirements of Perkins programming. | The curriculum for the program includes **occupational safety and health** knowledge and skills. The program includes a **recognized safety credential**. | Guided Academic PathwaysConnection to Career | This is covered minimally. While not required in PLTW, this item could be further developed and meet requirements of Perkins programming.  |
| The program supports the development of knowledge of all aspects of an industry, including **rigorous content** and **relevant technical knowledge and skills.** | Yes | For high schools, curricula are based on the **Massachusetts Curriculum Frameworks** and incorporates essential power-standards/sections of applicable Massachusetts Vocational Technical Education Frameworks. | Guided Academic PathwaysConnection to Career | Yes  |
| The program supports the development of knowledge of all aspects of an industry, including **rigorous content** aligned with **challenging academic standards.** | Yes | For high schools, curricula are based on the **Massachusetts Curriculum Frameworks,** including Massachusetts Vocational Technical Education Frameworks. Academic curricula are based on Massachusetts ELA, Math and Science Frameworks. Academic and technical instruction may be integrated. | Guided Academic PathwaysConnection to Career | Yes  |
| The program supports the development of knowledge of all aspects of an industry, including **work attitudes and employability skills**. | Yes, especially due to the 100-hour internship or capstone experience. | The curriculum for the program includes **employability and career readiness** knowledge and skills, and **work-based learning** (as defined in the program quality indicator), as appropriate and feasible. | Guided Academic PathwaysConnection to Career | Yes |
| The program supports the development of knowledge of all aspects of an industry, including **management and entrepreneurship knowledge and skills.** | Not in all cases.While not required in IP Designation, this item could be included in IP development and meet requirements of Perkins programming. | The curriculum for the program includes **management and entrepreneurship** knowledge and skills. | Guided Academic Pathways Connection to Career | Yes (for Engineering) |
| This is covered minimally for CS and Biomedical. |
| The program supports the development of knowledge of all aspects of an industry, including **technological knowledge and skills**. | Yes | The curriculum for the program includes **computer** knowledge and skills. | Guided Academic PathwaysConnection to Career | Yes |

**Technical courses** prepare students to pursue meaningful careers in a specific occupation or cluster of occupations (CVTE) or the chosen industry sector (IP), and for related postsecondary education and training. A **sequence of technical courses** means courses that, through prerequisites, **build sequentially**, from simple tasks or theories to more advanced or complex skills or requirements; are in the **same occupational field or industry sector**; and at the **secondary level**, at least two technical courses that are each a full-year equivalent (such as two courses that are each one year long; four half-year courses; two block schedule courses) or two semesters of college-level courses at a postsecondary institution; and at the **postsecondary level**, certificate and degree programs with at least 12 credits of technical courses.

**Strengthening Career and Technical Education for the 21st Century Act-Perkins V (Section 3):**

The term career and technical education means organized educational activities that –

(A) offer a sequence of courses that—

(i) provides individuals with rigorous academic content and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions, which may include high-skill, high-wage, or in-demand industry sectors or occupations, which shall be, at the secondary level, aligned with the challenging State academic standards adopted by a State under section 1111(b)(1) of the Elementary and Secondary Education Act of 1965;

(ii) provides technical skill proficiency or a recognized postsecondary credential, which may include an industry-recognized credential, a certificate, or an associate degree,

(iii) may include prerequisite courses (other than a remedial course) that meet the requirements of this subparagraph;

(B) include competency-based, work-based, or other applied learning that supports the development of academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of an industry, including entrepreneurship, of an individual;

(C) to the extent practicable, coordinate between secondary and postsecondary education programs through programs of study, which may include coordination through articulation agreements, early college high school programs, dual or concurrent enrollment program opportunities, or other credit transfer agreements that provide postsecondary credit or advanced standing; and

(D) may include career exploration at the high school level or as early as the middle grades (as such term is defined in section 8101 of the Elementary and Secondary Education Act of 1965).

1. DESE welcomes collaboration with other program/curriculum partners to determine if they may also provide a strong backbone for meeting Perkins V components. [↑](#footnote-ref-1)
2. The term ‘all aspects of an industry’ means strong experience in, and comprehensive understanding of, the industry that the individual is preparing to enter. [↑](#footnote-ref-2)