



Career-Ready Wisconsin

2021 Career and Technical Education Annual Report

Published June 2023

Wisconsin Department of Public Instruction



Table of Contents

Foreword	3
The Promise of Career and Technical Education (CTE)	4
CTE: The Heart of Career Readiness	7
Wisconsin Regional Career Pathways	10
Elements of a Career Pathway	12
Career Readiness Relies on Wisconsin’s CTE Teachers ...	14
Career Readiness is for ALL Wisconsin Students	15
In Closing	16
References.....	17

Foreword

Thank you for reading DPI’s Career and Technical Education Annual Report. “Career-Ready Wisconsin” is a report on how school districts are preparing students for a career—whether that career takes them through college, into the military, or directly into the workforce.

Career and technical education, or CTE, is undergoing a transformation. Students are no longer separated into college-bound and non-college-bound tracks. Career-readiness is not packed into the last four to six years of school; it is worked into every grade level because we understand the complexity of students learning who they are, how best to work with others, exploring and choosing a career path, and taking action to learn the skills and knowledge related to a career of their choosing. Today, no matter what career direction a student is considering, career preparation starts early - as in kindergarten - and accelerates as students approach graduation.

Career development follows a pattern: **know-explore-plan-go**. Early activities address getting learners to **know** themselves, understanding and managing emotions, and learning focusing strategies. These may lead to some **explore** activities like [career-based learning experiences](#). This could look like inviting an environmental engineer to class to talk about their work, touring a local business, or job-shadowing a medical laboratory technician. These opportunities engage students and help them make informed decisions about their own career.

As students grow and explore, they may take assessments that match their personality, talents, and preferences with careers that draw on their strengths. They also get hands-on exploration in career-related courses, all while continuing to build their skills in communication, creative thinking, problem-solving, and decision-making.

Every student should have access to quality career and technical education. By high school, many students have not only determined with some confidence what they do not want to do, but also have narrowed their decision to a general area they would like to try. This is when they need a plan: how will they get the courses they need, the certifications they would like, the work-based learning that will set them up for success? Once they have a plan, it’s time to **go**.

This is the essence of career readiness: working to identify a career path students are passionate about and moving ahead to deepen their knowledge and understanding before leaving high school. Along the way, students may earn credit or an industry-recognized credential, participate in a work-based learning experience, or join a career and technical student organization, where they can gain service learning opportunities and leadership skills.

Our goal is for all Wisconsin students to be career-ready. Are they done learning? No, we are never done learning. We hope to provide a solid foundation on which our students can build successful careers, families, lives, and communities. That’s Career-Ready Wisconsin.

Jill K. Underly, PhD, State Superintendent
Wisconsin Department of Public Instruction



The Promise of Career and Technical Education (CTE)

Career and technical education (CTE) combines academic and technical skills with the knowledge, training, and professional skills needed to become lifelong learners and succeed in future careers.

The research on career and technical education is clear: Learners are more prepared for their futures when they start in CTE. In other words, CTE sets every student on a path to become career-ready.

HIGHER GRADUATION RATES

The graduation rate for students taking two or more CTE courses in a career pathway is 95 percent. That is 10 percent higher than the national average for high school graduation (Advance CTE, “Career Technical Education and Learner Achievement”).

INCREASED ACADEMIC ACHIEVEMENT

Forty-five percent of learners say CTE courses provide them with real world examples that help them better understand academic classes (Advance CTE, “Career Technical Education and Learner Achievement”).

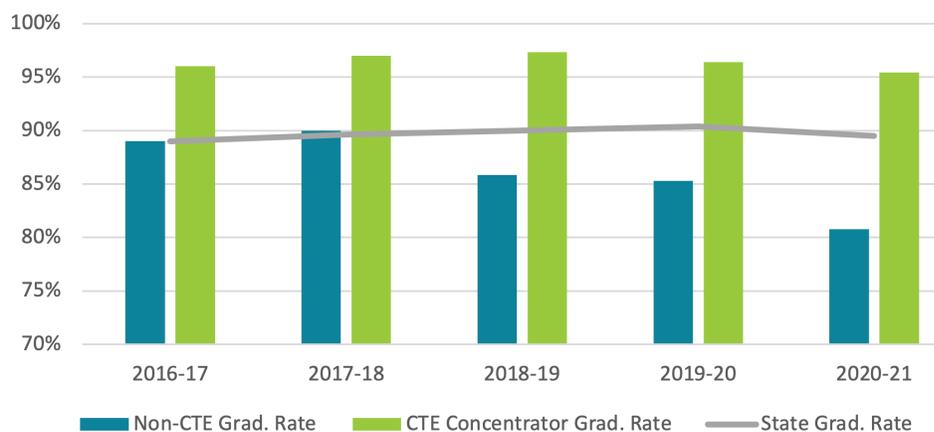
Early evidence backs them up. It shows that learners who engage in high-quality CTE have higher achievement in academic subjects, such as English (Advance CTE, “Career Technical Education and Learner Achievement”).



These students come in [to technical college] better equipped for success. They already know what the rigor of coursework looks like. ... So we can get them moving forward faster, back out into the workforce faster where they're highly needed.

—Holly Valentine, Northeast Wisconsin Technical College

Wisconsin CTE Concentrator Graduation Rate



HIGHER EARNING POTENTIAL

- The U.S. Department of Education found that eight years after their anticipated graduation date, students who participated in CTE courses in high school had higher median earnings than the students who did not participate in CTE courses (United States Department of Education, 2019).
- A 2017 Organization for Economic Co-operation and Development study found that future wage earnings at age 26 increase 0.8% for each meaningful career conversation students experience in middle and high school, with the increased earnings rising to 1.6% for each conversation rated “very useful” (Organisation for Economic Cooperation and Development, 2020).

PREPARED FOR POSTSECONDARY EDUCATION

Dual enrollment programs were found to have positive effects on students’

- general academic achievement in high school
- completion of high school
- college access and enrollment
- credit accumulation in college
- degree attainment in college (Institute of Education Sciences, 2017)

PREPARED FOR THE WORLD OF WORK

CTE provides a strong pathway for learners to prepare for the future of work:

- Equips learners with real-world skills, such as entrepreneurial and employability skills, that are foundational and transferable across rapidly shifting sectors and work activities;
- Places learners on a path to postsecondary credential attainment that translates into high-skill, high-wage, and in-demand occupations;
- Brings business and industry to the table to ensure that CTE programs are relevant and future-focused;
- Closes achievement and opportunity gaps by placing an intentional focus on equity and providing each learner with an opportunity for career success;



Being involved in HOSA [Future Health Professionals], ... I’ve been able to answer many questions that relate to my career field and get hands-on experience through many competitions I’ve taken, which has solidified what I want to do in my career field.

*—Emmylee Rahmlow,
Mishicot Class of 2022*

- Supports learners' efforts to upskill through programs of study that support stackable and short-term credentials of value; and
- Encourages partnerships between K-12, postsecondary, and industry through program of study frameworks (Advance CTE, "CTE Prepares Learners for the Future of Work").

A PIPELINE FOR EMPLOYERS

93 percent of employers are already recruiting from CTE (including Youth Apprenticeship, career pathway programs) because the programs are beneficial to their bottom line (Advance CTE, "Communicating the Value of Career Technical Education to Employers").



CTE: The Heart of Career Readiness

At heart, career readiness is made possible through career and technical education (CTE). Whether students learn professional skills, take academic classes, earn a certificate, participate in a work-based learning opportunity, or take part in a career and technical student organization, CTE elements make up a career pathway that naturally leads to career readiness.

The path to career readiness starts in kindergarten.

Career readiness is made possible through Academic and Career Planning (ACP). ACP provides a framework that builds career readiness into each grade—from self-awareness to career awareness, career exploration, career planning, and career management. As they discover more about themselves on their educational journey, learners are better able to recognize career possibilities and educational pathways that match their interests and skills and are also better able to recognize and set their own goals for education and career. When fully carried out, ACP leads naturally to a career pathway.

A career pathway is a roadmap to success.

Imagine the learner who has explored various careers and has identified a career of interest. Now they are ready for deeper exploration through a career pathway. Each pathway—whether health science, agriculture, business, construction, or engineering, to name a few—includes CTE elements that help students develop the knowledge and skills to be successful in the career of their choice. Pathways come to life through these CTE elements:

- A sequence of CTE courses that build from introductory to more advanced levels
- Dual credit opportunities
- Industry-recognized credentials
- Work-based learning experiences
- Career and technical student organizations

Career pathways provide a roadmap that Wisconsin schools can use to deliver CTE. Students can follow these maps to explore careers of interest, develop career-readiness skills, and get hands-on experience while still in high school.



"Career pathways are ways of helping students tie the academic things they learn in classrooms with the real-life experiences and jobs that they might do ... once they get done with high school. Certainly our job is to prepare students to be college-, career-, community-ready. And pathways are really the best way for them to tie all three of those things together in a meaningful way.

*—Dirk Ribbens, Principal
Ashwaubenon High School*

Wisconsinites are taking a regional approach to ensure our students are career-ready.

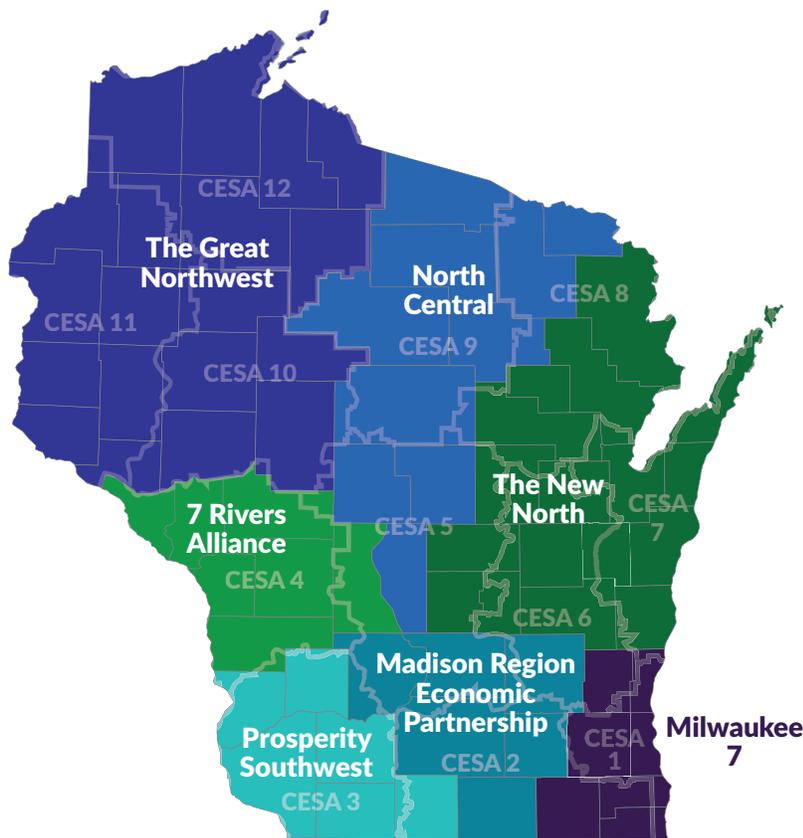
Wisconsin’s Regional Career Pathways (RCPs) approach makes the process of building pathways easier for individual school districts by vetting some of the career pathway offerings on a regional basis and tailoring pathways to address local employment needs.

Wisconsin’s regional career pathway network covers seven regions—each with its own advisory group of local employers, educational organizations, and economic and workforce development interests. The true power of the regional network is in the partnerships that bring together business and educational organizations.

These groups determine the knowledge and skills that graduates need to be ready for a career in the industries in their regions. Employers share direct input on the latest tools, practices, and processes in their industry, so that K-12 schools and other educational organizations can connect these technical skills with academic standards in a way that engages young learners.

This model ensures that Wisconsin students have the most current academic knowledge, technical skills, and professional skills. In 2020-21, regions partnered with more than 900 employers to offer internships and apprenticeships.

Wisconsin supercharges career pathways by delivering CTE using a regional approach.



Career-ready students have more opportunities to explore careers in high school than ever before.

Compared to vocational education of decades past, modern CTE spans nearly every industry. In addition to traditional vocational pathways like automotive repair and construction, today's CTE programs cover health science, engineering, computer science, sustainable agriculture, culinary arts, education and training, and many other fields.

All Regional Career Pathways lead to high-skill, high-wage, and in-demand careers that are expected to see the most growth.* Listed on the following page are the regional career pathways that have been developed and have been implemented by multiple regions statewide so far. Building pathways would not be possible without the partners that make up our regional collaborative groups (below).

**As determined by the Wisconsin Department of Workforce Development's labor market information and direct industry input.*

Regional Career Pathway Collaborative Partners, 2020-21



(Wisconsin Department of Public Instruction. 2021)



[Matrix Packaging Machinery] does have a very vested interest in serving our community. Being a smallish community, we have access to these young individuals through programs like [Youth Apprenticeship]. So it's just as much of an outreach for us as it is for our own personal and future professional endeavors.

-Eric Walker, Mechanical Engineering Manager, Matrix

Wisconsin Regional Career Pathways



Advanced Manufacturing

- Production
- Engineering and Design
- Industry 4.0
- Electro-mechanical
- Supply chain



Architecture and Construction

- Design/Pre-Construction
- General Construction/
Skilled Trades



Business Administration

- **Finance**
Accounting and Business
Finance
Securities/Investments and
Banking Services
Insurance
- **Business Management**
Administrative Services
Management
- **Marketing**
Sales and Merchandising
Communications
Research



Digital Technology

- Business Analysis and
Project Management
- Cybersecurity
- Data Technology
- Network and Systems
Infrastructure
- Software Development
and Programming



Education and Training

- Early Childhood
Education
- K-12 Education
- Higher Education
- Adult and Community
Education



Patient Care

- **Therapeutic Services**
Direct Care
Nursing
Behavioral Health
- **Diagnostic Services**



Energy

- Energy Generation and
Conservation
- Energy Transmission,
Distribution, and Storage

More Regional Career Pathways are being developed. For example, pathways in Agriculture, Food, and Natural Resources as well as Hospitality and Tourism are in development.

Wisconsin Student Participation in CTE by Career Pathway*, 2020-21

Career Pathway	Participants**	Concentrators***
Agriculture, Food, and Natural Resources	30,314	6,446
Architecture and Construction	27,812	4,918
Arts, A/V Technology, and Communications	19,149	2,380
Business Management, and Administration	38,432	6,592
Education and Training	6,464	1,785
Finance	27,571	2,161
Government and Public Administration	418	4
Health Science	21,610	5,758
Hospitality and Tourism	37,925	6,356
Human Services	12,588	1,626
Information Technology	26,091	3,779
Law, Public Safety, Corrections, and Security	5,152	102
Manufacturing	30,537	6,326
Marketing	16,891	2,145
Science, Technology, Engineering, and Mathematics	20,411	3,561
Transportation, Distribution, and Logistics	15,799	1,917

(Perkins Collaborative Resource Network. 2023)

*Includes both local pathways and regional career pathways

**A “CTE participant” is a student, grades 9-12, who has taken at least one CTE course and passed.

***A “CTE concentrator” is a student, grades 11 or 12, who has taken a sequence of at least two courses in the same pathway.



You kind of got that college feel of like this is how rigorous the coursework would be. But also you get that security blanket of still being in high school.

—Claire Martino, New Berlin Eisenhower Class of 2022

Elements of a Career Pathway

A career pathway is made up of five elements that are described below: A sequence of courses, dual enrollment classes, work-based learning opportunities, career and technical student organizations, and industry-recognized credentials.

A sequence of courses is a way for students to explore and learn about careers.

A career pathway is made up of five elements that are described below. The foundation for every career pathway, a sequence of courses, includes at least two courses taught by CTE-licensed teachers that go from introductory to more advanced.

Dual enrollment classes

Dual enrollment classes give high school students a head start on college without the student paying college tuition in most cases. High school students are enrolled in high school and college at the same time and earn credit from both. Such programs prepare students for a higher level coursework, while making college more accessible and affordable for all students. In 2020-21, 18.6 percent of high school students took a dual-credit course (not necessarily CTE)—up 0.8 percent over the previous year (Wisconsin DPI, School Report Card, 2023). [Learn more about dual enrollment in Wisconsin.](#)

Work-based learning is essentially hands-on learning.

It helps connect students' coursework with a real-world setting that is supervised by the school and the employer. In the process, students develop employability skills, gain a deep understanding of a career path, and build relationships with employers. There are eight types of work-based learning opportunities. In 2020-21, 16 percent of CTE Graduate Concentrators participated in work-based learning in high school. [Learn more about work-based learning in Wisconsin.](#)

Wisconsin CTE Participants and Concentrators*

Types of Enrollment	2020-21
Total enrollment, (gr. 9-12)	258,331
Participants (gr. 9-12)	168,399
Concentrators (gr. 11-12)	55,856

(Perkins Collaborative Resource Network, 2023)

*A "CTE participant" is a student, grades 9-12, who has taken at least one CTE course and passed.

A "CTE concentrator" is a student, grades 11 and 12, who has taken a sequence of at least two courses in the same pathway.



[Dual credit courses allow students to] have a high school class on their transcript but they also establish a university transcript. That transcript then can be utilized toward a degree at UW-Green Bay or transferred to most other colleges and universities.

—Meagan Strehlow
 UW-Green Bay K-12 &
 Community Relations
 Executive Officer

Career and technical student organizations (CTSOs*) offer unparalleled training grounds for students.

CTSOs blend classroom learning with opportunities for students to apply new skills. CTSOs help students develop citizenship, technical skills, leadership, and teamwork skills essential for students who are preparing for the workforce and further education. [Learn more about CTSOs in Wisconsin.](#)

**CTSOs include DECA, FBLA, FCCLA, FFA, HOSA, and SkillsUSA.*

More than 31,400 students gained leadership skills through Wisconsin CTSOs in 2020-21.

Industry-recognized credentials guarantee an applicant has a certified skill.

One element of CTE is an industry-recognized credential (IRC). These certifications or licenses are endorsed by a nationally recognized trade association or industry organization. They are also vetted and accepted by area employers, and are portable. An IRC specifies the skills that a student has demonstrated through a CTE program. The top three IRCs in Wisconsin include Assistant Childcare Teacher, MS-Office Specialist Certification, and CNA (certified nursing assistant). [Learn more about IRCs in Wisconsin.](#)

Business and Industry-Recognized Credentials (IRCs) Qualified for CTE Technical Incentive Grants

Graduation year *	2018-19	2019-20*	2020-21*
CTE Technical Incentive Grants Awarded	5,084	5,068	4,012

(Wisconsin Department of Workforce Development, 2023)

**The school years of 2019-20 and 2020-21 may be lower because of pandemic-related closures.*



Career Readiness Relies on Wisconsin's CTE Teachers

Career readiness relies on Wisconsin's teaching expertise to support students' career aspirations.

A CTE-certified teacher not only has the academic and teaching skills required of all educators, but also the technical expertise needed to demonstrate how to perform skills in a given career. In an economy where talent is in high demand, CTE teachers are increasingly important.



I think it is very valuable as a junior in high school to get my certificate and credentials early on so I can save money, time, and I can start expanding my knowledge early.

*—Jackie Halverson,
Altoona Class of 2023*

Wisconsin Teachers (full-time equivalent)

	2017-18	2018-19	2019-20	2020-21
Total CTE Teachers by FTE	2,625	2,633	2,640	2,682
Total Teachers by FTE	58,754	59,644	59,955	60,260
CTE as % of State	4%	4%	4%	5%

(Wisconsin Department of Public Instruction, 2021)



Career Readiness is for ALL Wisconsin Students

The more individual students who are ready for the future, the more communities are ready for the future, and the more Wisconsin's economy is ready for the future. CTE opens up opportunities for students who may have "fallen between the cracks" in the past. CTE patches those cracks, helping students find fulfilling careers while creating a greater talent pipeline and a stronger foundation for all Wisconsinites.

Wisconsin CTE Participants and Concentrators by Special Populations, 2020-21

Special Populations, Grades 11 and 12	Grades 11-12	CTE Concentrator	CTE Participant	Grades 9-12
Economically disadvantaged	38%	28%	32%	39%
Students with disabilities	14%	11%	11%	14%
English learners	3%	3%	4%	4%
Students of color	28%	23%	25%	29%

(Perkins Collaborative Resource Network, 2023)



In Closing

Career readiness in any community is a reflection of the families, the employers, the educators, and the leaders in that community. CTE reflects the importance that is placed on helping students find their place in the world with passion and excitement. Would you like to help your students to be career-ready? Thank a teacher. Open your business or organization to classes that would like to take tours. Volunteer to speak in a classroom or have a student shadow you on the job. Volunteer to help the CTE teachers prepare for a CTSO conference. Get involved today!

[Get in touch with us!](#)



References

- Advance CTE. n.d. "Career Technical Education & Learner Achievement." Accessed February 10, 2023. https://cte.careertech.org/sites/default/files/documents/fact-sheets/CTE_and_Student_Achievement_2020_0.pdf.
- . n.d. "Communicating the Value of Career Technical Education to Employers." Accessed February 10, 2023. https://cte.careertech.org/sites/default/files/documents/fact-sheets/EmployerResearchReport_KeyMessages.pdf.
- . n.d. "CTE Prepares Learners for the Future of Work." Accessed February 10, 2023. https://cte.careertech.org/sites/default/files/documents/fact-sheets/CTE_Prepares_Learners_Future_Work_2020.pdf.
- Institute of Education Sciences. February 2017. "Dual Enrollment Programs: Transition to College." Accessed February 10, 2023. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_dual_enrollment_022817.pdf.
- Organisation for Economic Cooperation and Development (OECD). December 16, 2020. "Career Ready? How schools can better prepare young people for working life in the era of COVID-19." Accessed February 10, 2023. https://www.oecd-ilibrary.org/education/career-ready_e1503534-en.
- Perkins Collaborative Resource Network. 2023. Calculated from the "Consolidated Annual Report." December 16, 2022.
- . 2023. "Consolidated Annual Report." Accessed March 16, 2023. <https://cte.ed.gov/accountability/consolidated-annual-report>.
- United States Department of Education. September 2019. "Bridging the Skills Gap: Career and Technical Education in High School." Accessed February 10, 2023. <https://www2.ed.gov/datastory/cte/index.html>.
- Wisconsin Department of Public Instruction. 2021. "Public All Staff Report." Accessed March 17, 2023. <https://publicstaffreports.dpi.wi.gov/PubStaffReport/Public/PublicReport/AllStaffReport>.
- . 2023. Report Cards Home. Accessed March 17, 2023. <https://dpi.wi.gov/accountability/report-cards>.
- . 2021. WISEDash Public. Accessed March 17, 2023. <https://wisedash.dpi.wi.gov/Dashboard/dashboard/22275>.
- Wisconsin Department of Workforce Development. March 2023. CTE Technical Incentive Grant Program applications. Per Wis. State Stats. §106.273. <https://docs.legis.wisconsin.gov/statutes/statutes/106/II/273>

This publication is available from:

Division of Academic Excellence Career and Technical Education Team

Duy Nguyen, Assistant State Superintendent, Division of Academic Excellence

Sharon Wendt, Director, Career and Technical Education Team

dpi.wi.gov/cte

June 2023 Wisconsin Department of Public Instruction

Jill K. Underly, PhD, State Superintendent

The Wisconsin Department of Public Instruction does not discriminate on the basis of sex, race, color, religion, creed, age, national origin, ancestry, pregnancy, marital status or parental status, sexual orientation, or ability and provides equal access to the Boy Scouts of America and other designated youth groups.





Wisconsin Department of Public Instruction

Jill K. Underly, PhD, State Superintendent

Madison, Wisconsin