Section II

Wisconsin's Approach to Career and Technical Education and Technology and Engineering Education

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What is Contemporary Career and Technical Education?

There are multiple components to consider when developing contemporary Career and Technical Education (CTE) programs. The standards outlined in this document provide an important foundation to prepare individuals for a wide range of careers. Effective CTE programs are dynamic and require utilization of varied resources and involvement from multiple stakeholders. The discussion that follows highlights the multi-faceted nature of CTE and outlines the critical components that drive the development of effective CTE programs.

A National Vision for CTE

The National Association of State Directors of Career and Technical Education Consortium (NASDCTEc) has identified five guiding principles that should drive the development of quality CTE programs. Wisconsin supports these principles as spelled out in the NASDCTEc's *Reflect, Transform, Lead: A New Vision for Career and Technical Education*. These principles provide that Career and Technical Education is:

- critical to ensuring that the United States leads in global competitiveness;
- actively partnering with employers to design and provide high-quality, dynamic programs;
- preparing students to succeed in further education and careers;
- delivered through comprehensive programs of study aligned to The National Career Clusters framework; and
- a results-driven system that demonstrates a positive return on investment.

CTE in Wisconsin

Career and Technical Education is both a collection of educational programs or content areas as well as a system of preparing students to be career and college ready. Contemporary CTE programs are delivered primarily through six specific content areas; these include:

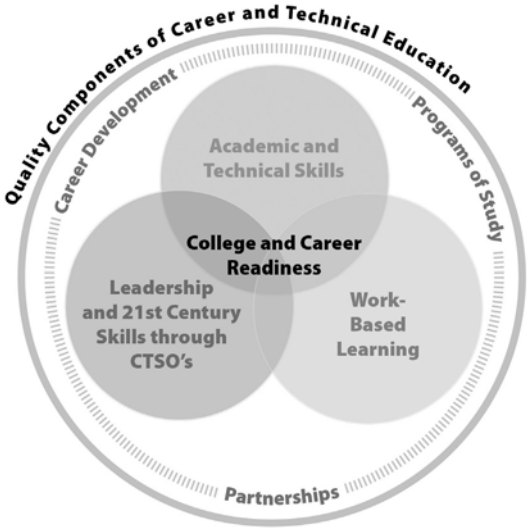
- Agriculture, Food and Natural Resources
- Business and Information Technology
- Family and Consumer Sciences
- Health Science
- Marketing, Management and Entrepreneurship
- Technology and Engineering

Not all Wisconsin school districts offer programs in all of these content areas, but all should be offering CTE through a systemic approach that prepares students to be college and career ready.

At the elementary level, CTE content and concepts should be integrated throughout the curriculum. Teachers can effectively use CTE concepts in instruction and activities to develop foundational skills and also create a connection to the world of work. At the middle and high school levels, all students should have access to CTE courses and programs while also participating in activities prescribed by the Wisconsin Comprehensive School Counseling Model. High quality CTE programs incorporate rigorous academic and technical standards, as well as critical workplace skills – such as problem solving, communication and teamwork – to ensure career and college success for its students. The Programs of Study components provide a framework for building and maintaining a high quality, contemporary CTE program, but one can also recognize such quality programs by the presence of three distinct and crucial elements – rigorous academics and technical skill attainment, work-based learning and Career and Technical Student Organizations (CTSOs). The diagram and description that follows on the next page illustrates the quality components of Career and Technical Education programs.

Rigorous Academics and Technical Skill Attainment

CTE programs prepare students for high-skill, family-sustaining jobs that typically require high levels of core academic skills as well as various technical skills. Consequently, CTE students must be held to high academic standards; often this includes course and performance expectations exceeding typical graduation requirements. CTE students benefit from a source of relevance for their academic instruction. They see the connection between their academic knowledge and skill instruction and their future occupational and career goals.



Of course, at the heart of CTE is the attainment of technical skills that are required for potential high-skill, high-wage jobs. Where circumstances and resources allow, CTE programs provide opportunities for high school students to attain the highest level of skills possible within their desired career pathway. This is done through courses taught by high school CTE teachers and/or through partnerships with neighboring districts, employers, technical colleges and postsecondary institutions or other organizations.

Some of the specific means of achieving rigorous academics and technical skill attainment include:

- *Partnerships/Advisory Committees* – These typically include representatives of area businesses within the given program's career area as well as representatives from related postsecondary training and education programs. They may also include parents, students and program alumni. They can provide recommendations on program changes and improvements, as well as serve as advocates for the program.
- *Transcripted or Dual Enrollment Options* – Opportunities such as these allow students to earn both high school and college credit concurrently. Various options are available for CTE students include advanced standing and transcripted coursework taught at the student's high school, as well as Youth Options and Advanced Placement (AP) courses.
- *Equivalency Credit Options* – These provide opportunities for students to earn credits required for high school graduation through CTE courses proven to have sufficient academic content.
- *Work-Based Learning* – See separate section below
- *Career and Technical Student Organizations* – See separate section below

Work-Based Learning

A vital part of comprehensive career and technical education programs is a structured work-based learning experience. One goal of education is preparing students to successfully enter the workforce. The best way to achieve this goal is for students to spend time in a work setting. Many factors will influence the work-based learning options that can be offered.

Work Place Visits, Employer/Employee Dialogues and Job Shadowing – At the very least, students should participate in work place visits and tours as well as hear presentations and have a dialogue with employers and employees to see how their school-based learning is relevant to the work place. Job shadowing – during which students spend several hours observing one or more employees at a work place – is an even better way to expose students to the work place.

Paid Work Experience – Ideally, students will have opportunities for paid work experience in a job related to their program of study and connected with one or more courses in which the student is currently enrolled. Such experiences should include a training agreement that spells out the expectations for everyone involved including the student, employer, teacher and parents. One of the critical elements of the training agreement is a

list of the skills and knowledge the student is expected to develop through their paid work experience. Examples of structured, existing work experience programs in Wisconsin are the Employability Skills Certificate, State Certified Skills Coop programs and Youth Apprenticeship.

Leadership Certificate – An option for many students includes the Wisconsin Youth Leadership Certificate. This certificate is comprised of leadership skills and attitudes that are honed through community and school volunteer or service experiences, leadership positions and volunteer or unpaid workplace encounters.

The more time students spend in the workplace and the broader the experiences, the better prepared they will be. These students will also be better prepared to plan and make decisions about their futures. Work-based learning allows students to put into action the knowledge and skills learned at school.

Career and Technical Student Organizations

Career and Technical Student Organizations (CTSOs) are the third critical element found in the best contemporary CTE programs. Through CTSOs, students match their skill level against those of other students and established industry standards. In addition, CTSOs allow students to develop civic responsibility, leadership and 21st century skills.

Wisconsin has six state and nationally recognized CTSOs that are intra-curricular in that they are connected directly to the classroom through curriculum, activities and community resources. All CTSOs include leadership development elements and competitive events where students demonstrate technical and leadership skills. CTSOs prepare young people to become productive citizens and leaders in their communities and their careers. This is done through school activities as well as regional, state and national leadership conferences and competitions. Students grow and develop through these events and receive recognition for the work they have done and the skills they have developed. CTSOs provide an exceptional extension of CTE instruction. Wisconsin's recognized CTSOs include:

An Association of Marketing Students	An Association of Technology and Engineering Students	An Association of Business and Information Technology Students	An Association of Health Science Students	An Association of Family and Consumer Students	An Association of Agricultural Education Students

The Powerful Outcomes of Quality CTE

Beyond the technical knowledge and skills developed by CTE students, the overall outcomes of students who have enrolled in a CTE course – and in particular students who have taken a sequence of courses in a CTE program of study (called CTE concentrators) – are exceptionally positive. Approximately two-thirds of Wisconsin students have taken at least one CTE course. These students have a higher graduation rate (84.2%) than students who have not taken a CTE course (81.8%). CTE concentrators have an even higher graduation rate (95.7%). In addition, within a year after graduation, CTE concentrators report overwhelming positive outcomes with approximately 95% either working, attending postsecondary education or engaged in training programs.*

CTE and Programs of Study – Expanding Student Opportunities

Such positive outcomes as those noted show how CTE programs expand student opportunities. To support quality CTE programs, it is critical to foster partnerships, implement Programs of Study and promote career development through academic and career planning. CTE students develop a strong base of academic knowledge and skills that better prepare them to enter nearly any postsecondary program and pursue any career pathway compared to students who have not taken CTE courses. The relevance created by CTE and programs of study opens up additional opportunities and prepares students to pursue those opportunities when they graduate from high school. Students who select and pursue a program of study through CTE, based on identified career goals, will be in the best position for all job and career opportunities that arise in their future, including those they have never considered or those not yet in existence. ***Quality CTE programs are at the forefront of preparing college and career ready graduates.***

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*Statistics from 2011 Wisconsin Career and Technical Education Enrollment Report (CTEERS) data.

Delivering Career and Technical Education through Career Clusters and Pathways

Career Clusters Framework

One of the keys to improving student achievement is providing students with relevant contexts for studying and learning. Career Clusters do exactly this by linking school-based learning with the knowledge and skills required for success in the workplace. The National Career Clusters Framework was developed by the National Association of State Directors for Career and Technical Education Consortium (NASDCTEc). This framework is comprised of 16 Career Clusters and related 79 Career Pathways to help students of all ages explore different career options and better prepare for further education and career. Each Career Cluster represents a distinct grouping of occupations and industries based on the knowledge and skills they require. They provide an important organizing tool for schools to develop more effective programs of study (POS) and curriculum.

> **CTE is delivered through comprehensive programs of study aligned to the National Career Clusters framework**
> *"Programs of Study aligned to the National Career Clusters framework…should be the method of delivery of all CTE. A rigorous and comprehensive program of study delivered by qualified instructors is a structured sequence of academic and CTE courses that leads to a postsecondary credential. We must be willing to take bold steps necessary to jumpstart dramatic change in our nation's education and workforce preparation systems. The dichotomous silos of academics versus CTE must be eliminated and their supporting infrastructures must be re-imagined to meet the needs of the economy. As the lines of economies blur, so too must the lines that currently separate CTE and academic education."*
> ***~Reflect, Transform, Lead: A New Vision for Career and Technical Education, NASDCTEc***

In Wisconsin, the Career Clusters and Pathways have been embraced by CTE programs to provide a context for learning the skills specific to a career. Furthermore, the nationally recognized 10 components framework (see the Wisconsin Program of Study Implementation Guide for details) delineates promising practices necessary to fully implement programs of study. Programs of Study are designed to produce higher levels of achievement in a number of measurable arenas, including academic and technical attainment, high school completion, postsecondary transitions to career and education and attainment of a formal postsecondary credential. They also contribute to increased student proficiency in vital areas such as creativity and innovation, critical thinking and problem solving.

Delivering CTE through Career Clusters

Delivering CTE through Career Clusters and Pathways means acknowledging three sets of standards (nationally-developed **Common Career Technical Core, Wisconsin Common Career Technical Standards and the Wisconsin Standards for Career and Technical Education**), their relationship to each other and how they can be used collectively to deliver quality instruction. It means shifting the way we approach curriculum and instruction to allow for a strategic approach for implementing these standards in a school or district. This section will outline the relationship that exists between these standards.

In our ever-changing society, many CTE programs are transitioning from helping students prepare for an entry-level job to helping students prepare for a career. As part of that transition, national organizations, such as the NASDCTEc, individual states and even industry-based organizations, have created different sets of standards for student learning in CTE programs. The result is an assortment of standards that vary in quality and specificity from one state to the next. In response, Wisconsin has made a concerted effort to outline these standards and their use for educators as they develop curriculum and programs of study.

Educating students is about the preparation for postsecondary options along with transferable skills that balance current business and industry needs and future career trends. CTE brings students, educators and employers together to develop and strengthen the relationship between what is being taught in the classroom and its application in the workplace. Having a skilled workforce and a vibrant economy depends on CTE programs that can deliver high quality

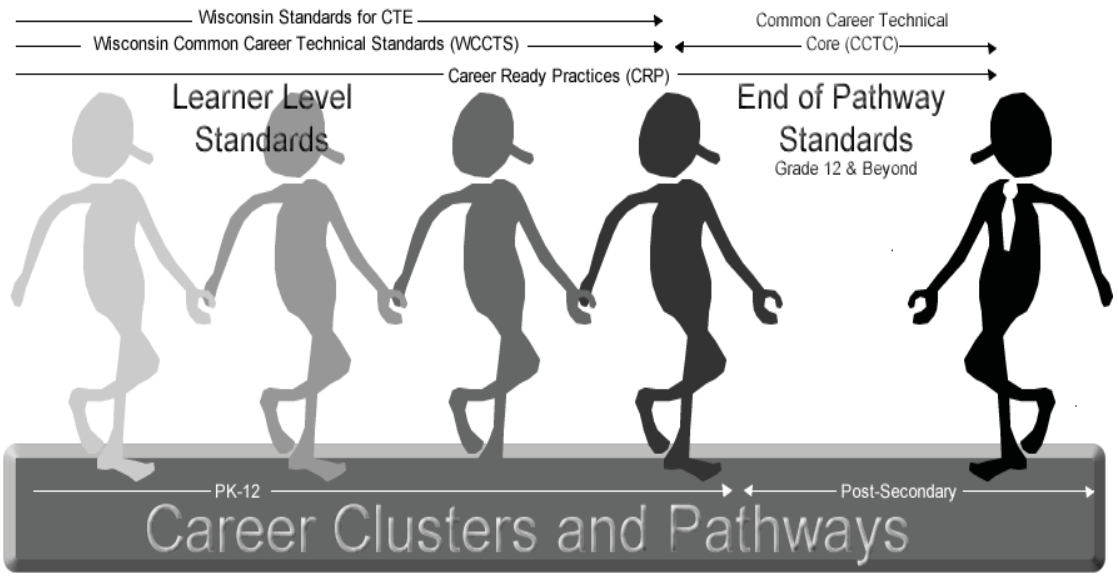
education and training. Because of this, understanding each of the following sets of standards and how they can impact classroom instruction is imperative and will need to be a priority for Wisconsin's CTE educators.

Common Career Technical Core

Recognizing the need for more consistency in today's global marketplace, in the spring of 2010, NASDCTEc united around a vision to develop a shared set of standards that meet a quality benchmark for students in CTE programs, regardless of where they live or which delivery system they use. The **Common Career Technical Core (CCTC)** has been developed to align with other college and career ready standards efforts, such as the Common Core State Standards in English Language Arts and Mathematics, while also articulating industry expectations for each of the 16 Career Clusters. The CCTC begins with a set of overarching **Career Ready Practices (CRP)** that apply to all programs of study. The **Career Ready Practices** include 12 statements that address the knowledge, skills and dispositions that are important to becoming career ready.

While the Common Core State Standards for English Language Arts and Mathematics define the academic knowledge and skills students need to succeed, there are additional standards that individuals must achieve if they are to be truly career ready. For example, employability skills such as team work and time management, as well as the career specific skills, have not been referenced in the Common Core State Standards. These are skills that individuals must possess in order to be successful in the workplace. These skills make up the **Career Ready Practices** outlined in the CCTC.

The nationally-developed **Common Career Technical Core** contains standards developed for each cluster and pathway. These standards are meant to showcase the knowledge and skills students should have at the **end of the pathway.** These standards provide a mechanism for districts and states to collaborate to provide seamless educational opportunities for students across a **program of study** beginning at the secondary level. Most programs of study will require postsecondary or industry-developed skills beyond what is provided at the secondary level.



*As depicted in this graphic, there is a continuum or progression that students travel in their PK-12 career. The path begins with learner-level standards such as the **Wisconsin Common Career Technical Standards** and the **Wisconsin Standards for CTE**. As students graduate from high school and move seamlessly into postsecondary options, the focus moves to the end-of-pathway standards such as the Common Career Technical Core (CCTC-national). The Career Ready Practices (CRP-national) act as overarching concepts that students need to know and be able to do throughout their educational experiences.*

Wisconsin Common Career Technical Standards

The development of the **Wisconsin Common Career Technical Standards (WCCTS)** occurred at the state level at the same time as the national **Common Career Technical Core (CCTC)**. The Wisconsin standards writing teams identified six areas that have been further developed into standards that should be addressed across all six CTE content areas. These standard areas are Career Development; Creativity, Critical Thinking, Communication and Collaboration; Environment, Health and Safety; Global and Cultural Awareness; Information, Media and Technology; and Leadership. The intended outcome of the WCCTS revolves around creating a set of standards that transcend CTE across the state and across all CTE content areas. To read more about the WCCTS, see Wisconsin's Approach to Common Career Technical Standards in Section III of this document. The WCCTS, along with the **Wisconsin Standards for CTE** form a strong foundation by which students move toward the completion of a program of study. The WCCTS and the Career Ready Practices in the CCTC correlate as shown below:

6 Wisconsin Common Career Technical Standards*					
Career Development Has a focus on personal and social, academic, career content and employability skills	**Creativity, Critical Thinking, Communication and Collaboration** Has a focus on creativity and innovative problem solving, critical thinking used to formulate and defend judgments, to communicate and collaborate to accomplish tasks and develop solutions	**Environment, Health & Safety** Has a focus on interrelationships of health, safety and environmental systems and the impacts of these systems on organizational performance for continuous improvement	**Global & Cultural Awareness** Has a focus on solutions and initiatives related to global issues and the benefits of working in diverse settings on diverse teams	**Information, Media and Technology** Has a focus on information and media literacy to improve productivity, solve problems and create opportunities	**Leadership** Has a focus on applying leadership skills in real-world, family, community and business and industry applications
12 Career Ready Practices**					
Attend to personal health and financial well-being	Apply appropriate academic and technical skills	Consider environmental, social and economic impacts of decisions	Work productively in teams while using cultural global competence	Employ valid and reliable research strategies	Act as a responsible and contributing citizen and employee
Plan education and career paths aligned to personal goals	Communicate clearly and effectively with reason			Use technology to enhance productivity	Model integrity, ethical leadership and effective management
	Demonstrate creativity and innovation				
	Utilize critical thinking to make sense of problems and preserve in solving them				

***See Section III**

****See** http://www.careertech.org/career technical-education/cctc/

Wisconsin Standards for Career and Technical Education (CTE)

The **Wisconsin Standards for Career and Technical Education** are sets of standards in each of the six content areas of Agriculture, Food and Natural Resources; Business and Information Technology; Family and Consumer Sciences; Health Science; Marketing, Management and Entrepreneurship; and Technology and Engineering. The **Wisconsin Standards for CTE** are written at the **learner level** and provide instruction and assessment at the PK-12 level,

that, when coupled with postsecondary education and training, leads to the mastery of end-of-pathway standards. Therefore, the **Wisconsin Standards for CTE** align to **Career Clusters and Pathways** and provide an excellent foundation for students **toward meeting the end-of-pathway** expectations.

In Summary

Career Clusters and Pathways provide an organizational structure for developing Programs of Study while building connections to current labor market information and future workforce demands. As noted previously, Programs of Study used within CTE help to create relevance for students in all subject areas. This relevance translates into improved student engagement in the learning process and more in-depth comprehension and skill development. Further, the **Wisconsin Common Career Technical Standards (WCCTS**) and the **Career Ready Practices** serve as the foundation for career readiness that ensures students have flexibility to change career paths as their interests, passions and circumstances change while considering changes in the current and projected job market. In our dynamic and unpredictable world, Career Clusters and Pathways, along with **Wisconsin Standards for CTE** to include the WCCTS, provide a measure of stability and certainty on which to build a successful future.

The Importance of Career and Technical Education

By meeting the current needs and anticipating the future demands of the economy, CTE is critical to our nation's economic success.† Quality CTE programs have planned course sequences of high-quality academic core content and technical skills that provide students with skills necessary for successful transition to postsecondary education or work in addition to a desire for life-long learning in global society.

CTE has grown and evolved to become a focus in schools, workforce and government. The importance and need for career and technical education in our society should be at the forefront of career decision making for the following reasons:

- CTE organizes both academics and career education into a practical program for workforce preparation, elevating the level of rigorous, challenging and applicable coursework leading to more informed preparation.
- CTE in schools promotes the wide variety of postsecondary options to help individuals choose and recognize pathways that will provide the most successful level and type of training for their future goals in postsecondary education, military or work, while understanding the need for lifelong learning and career development.
- CTE provides opportunities to develop 21st century and employability skills, exposure to work and mentoring from employers and connections with postsecondary education.
- CTE creates a positive, thoughtful learning environment for self-discovery, innovation and leadership to more lifelong career satisfaction and success.
- CTE recognizes the diverse needs, behaviors, backgrounds, environments and preferences of students by creating an approach for individual guidance and preparation for goals, plans and dreams.
- CTE is dynamic, flexible and responsive to the changes and advances of technology, education, the workforce and the economy by incorporating methods, ideas and resources to keep CTE relevant and contemporary.

CTE has a positive impact on student achievement and transitions. Programs help students find their passion, boost their confidence and empower them to succeed. Because CTE demonstrates a positive return on investment, CTE is a trusted, long-standing partner with the employer community.†

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† "Reflect, Transform, Lead: A New Vision for Career Technical Education." National Association of State Directors of Career Technical Education Consortium (NASDCTEc), 2010.

The Importance of Technology and Engineering in Wisconsin and Our Communities

With the growing importance of technology and engineering in our world, it is critical that our students receive education that emphasizes technological literacy. For generations, Wisconsin's technology and engineering education programs have made a significant contribution in the development of a world class work force.

Technology and Engineering is relevant and engaging
Technology and engineering education is at the heart of today's high-skilled, high-tech global economy. Many of workforce conversations involve manufacturing, construction, communications, transportation and STEM and easily relate to the content of technology and engineering courses. From engineering to manufacturing, electronics to graphics and sustainability, technology and engineering classes are at the forefront of today's work force and economic issues. Technology and engineering classrooms go beyond the construction of physical objects. Technology and engineering courses, which are applied classes, engage students in design, building, problem-solving, repair or service; are collaborative in nature and prepare students to be college and career ready.

Technology and Engineering is important to the economy
Technology and engineering education mostly encompasses five career cluster areas: Architecture and Construction, Arts A/V and Communication, Manufacturing, STEM and Transportation, Distribution and Logistics. Together, these large cluster areas provide opportunities for students in career exploration and career development. Manufacturing cluster courses such as welding are helping to solve the workforce skills shortage. According to the Bureau of Labor Statistics, welding and welding related fields are some of the most steady growth career fields students can choose. † STEM teaching and learning is another innovative approach for all learners that will contribute to Wisconsin being globally competitive. Providing career pathways for young people to acquire the knowledge and skills is essential to the future of America.

Technology and Engineering prepares for college and careers
As part of Career and Technology Education, postsecondary preparation is an inherent part of technology and engineering education. It is the mission of all technology and engineering educators to help students identify their own personal career ambitions and to determine which postsecondary institution will best meet the students' own needs for whatever career path they choose. Without technology and engineering education, students would lose a key opportunity to prepare themselves for the challenging world that awaits them after high school.

Technology and Engineering goes beyond the classroom
Technology and engineering education is able to reach beyond the four walls of a classroom through work-based learning options built on active participation with business and industry. Engaging students in high-quality technology and engineering classrooms can be found in a variety of capstone type work-based learning options in State Certified Skill Certificates and Youth Apprenticeship programs.

Through a proven system of developing leadership and technical skills, the student organization SkillsUSA should be part of every technology and engineering program. SkillsUSA is another significant way of taking technology and engineering education beyond the classroom. SkillsUSA prepares students for future careers by introducing them to the business culture. It emphasizes respect for the dignity of work, high standards, ethics and technical skills. SkillsUSA is an extremely effective instructional tool that connects our technology and engineering classrooms with college and careers.

SkillsUSA is:

- an extension of our classroom program;
- an instructional strategy used to develop, improve and expand occupational competencies;
- an avenue for students to gain personal and leadership skills; and
- an avenue to increase student motivation and support curricular integration.

Technology and Engineering is interdisciplinary and collaborative

Technology and engineering education provides specific connections between all content areas in secondary schools. Technology and Engineering lessons are heaped in technical concepts, design, science and math. Technology and engineering also has the technology education/science and math equivalent credit process. This process allows students to take a technology and engineering course and earn an equivalent math or science credit which counts for graduation. As part of career preparation and through involvement in the SkillsUSA organization, students in technology and engineering education develop strong abilities to work with others through collaboration and leadership. For a student to succeed after high school, they must have the ability to use their knowledge and skills in collaboration with the knowledge and skills of others in an interdependent manner. Technology and engineering education consistently provides specific and regular opportunities for students to become more productive citizens and employees through regular collaboration.

Technology and Engineering creates students who care

Technology and engineering education and SkillsUSA provides an educational experience that plays an important role in the development of citizens and the future workforce. Technology and engineering students are committed to serving their communities, with an eye toward solving problems that help those less fortunate. These activities emphasize ethics, high moral standards, communication and teamwork.

In summary

Technology and engineering education is an interdisciplinary STEM subject that provides multifaceted opportunities for students to become prepared for careers and for postsecondary education through theory and hands-on lessons in the classroom and industry-based opportunities outside of schools. The major force driving technology and engineering education is change. Contemporary technology and engineering programs are essential to Wisconsin and the nation's global competitiveness. Technology education, along with SkillsUSA, has the potential to elevate students to ensure the United States has a highly skilled workforce for generations to come.

†U.S. Department of Labor, Bureau of Labor Statistics. (2010). Occupational Outlook Handbook 2010-2011. Retrieved from http://www.bls.gov/oco

Work-Based Learning in Technology and Engineering Education Programs

One of the goals of technology and engineering programs is to prepare all students to be college and career ready. Providing work-based learning opportunities is an important step to becoming career ready. Engaging work-based learning experiences allow students to apply knowledge and technical skills to real-world projects and problems alongside professionals. Technology and engineering students who participate in programs such as the State Certified Construction Cooperative program and Youth Apprenticeship Manufacturing program makes a significant contribution to student's success in life.

Technology and engineering students seek a clear connection between their future career(s) and their class work. The opportunity to explore and experience the world of work is beneficial to career decision-making. These experiences provide students with a firsthand look at what skills and knowledge are needed to be successful in their chosen industry. Work-based learning is a key to a successful economy.

Some work-based education programs provide an opportunity for students to earn postsecondary credits concurrently while earning high school credit. This may occur through local agreements between a high school and college (such as a technical college or university) or through a more comprehensive agreement at the state or national level.

Today, most career pathways require some form of postsecondary education, whether it is an entry-level job, a management position for a mid-career professional or perhaps even a shift from practicing a profession to teaching others. A particular job might require a certificate, a two-year degree, a four-year degree, a doctorate or even a handful of courses to hone in on a particular piece of knowledge or a skill.[†]

Wisconsin SkillsUSA and Work-Based Learning

Recognized as integral to the success of work-based learning programs, the SkillsUSA organization is an important part in the success of our technology and engineering students. Through a proven system of developing leadership skills, positive attitudes and a sense of community pride, SkillsUSA serves a vehicle to transition students into careers. SkillsUSA prepares students for future careers by introducing them to the world of work. SkillsUSA emphasizes respect for the dignity of work, high standards, ethics and high quality skills. It is an extremely effective instructional tool that connects our technology and engineering classrooms with college and careers.

Work-Based Learning Options and Implementation in Technology and Engineering

Job Shadowing

Job shadowing is a career exploration strategy. As such, it is most appropriate at the middle school level. Middle school is the time for students to explore the broad range of occupations so that later on they will be able to narrow their career interests. High school students who have not narrowed their career interests by tenth grade may also find job shadowing to be a useful activity.

Service Learning

Service-learning is a teaching method that engages students in solving problems within their schools and communities as part of academic studies. In Wisconsin, service-learning is defined as "a teaching and learning method which fosters civic responsibility and links classroom learning and applied learning in communities." The strongest service-learning experiences occur when the service is intentionally immersed in ongoing learning and is a natural part of the curriculum that extends into the community.

Local Cooperative Education Program
Local Co-op involves paid work for a local credential that adds value for programs. Students can earn a high school credit for co-op experience and possible postsecondary credit. The number of required work hours is determined by the local school district and the program is administered by the local school district. Typically a local co-op is one year in length and can include all Career and Technical Education content areas.

School Based Enterprise
School-based enterprises (SBE) are effective educational tools in helping to prepare students for the transition from school to work or college. For many students, they provide the first work experience; for others, they provide an opportunity to build management, supervision and leadership skills. SBE activities help students increase their skills in management, problem solving, business operations, time management and working in teams.

Youth Leadership Skill Standards Program
The Youth Leadership Certificate is a set of competencies to recognize a student's mastery and exhibition of leadership skills valued by employers, communities and organizations. The certificate earned by the student will be issued by the State of Wisconsin and becomes a part of the student's portfolio and resume.

Employability Skills Certificate Program
The Employability Skills Certificate Program is a set of competencies developed for all students in order to recognize a student's mastery of employability skills valued by employers, to help students explore career interests and to provide a state credential of student mastery.

State Certified Cooperative Education Skill Standards Program
Wisconsin's Cooperative Education Skill Standards Certificate Program is designed in partnership with business, industry and labor representatives and educators around the integration of school-based and work-based learning and appropriate career development experiences. The program is designed to provide paid work experience for junior and senior high school students which contribute substantially to their educational and occupational development. Students learn technical tasks and employability skills validated by business and industry representatives in cooperation with high school, technical college and university instructors.

Technology and engineering students can choose from the electronics or construction skill standards program.

Wisconsin Youth Apprenticeship
Wisconsin's Youth Apprenticeship program is a part of a statewide School-to-Work initiative supported by the Wisconsin Department of Workforce Development (DWD). It is designed for high school students who want hands on learning in an occupational area at a worksite along with classroom instruction. The program is for high school juniors and seniors requiring a minimum of 900 hours (450 each year) of paid experience. In mentored on-the-job training, the mentor serves as a guide and sponsor of the Youth Apprentice and encourages the student's progress in the workplace. The DWD issues a Certificate of Occupational Proficiency to students who successfully complete the program.

The Youth Apprenticeship area has several choices for technology and engineering students to choose from including; Architecture and Construction, Arts, A/V Technology and Communications, Information Technology, Manufacturing, STEM and Transportation, Distribution and Logistics.

In Closing

Career and Technical Education programs use contemporary concepts and strategies to prepare students who are college and career ready. Today's 21st century workplace requires people with the leadership, teamwork and communication skills to perform effectively. Work-based learning programs have proven successful in developing these skills in students of all ages and backgrounds.

† http://careerreadynow.org/docs/CRPC_4pagerB.pdf

Career and Technical Student Organizations in Technology and Engineering Education Programs

SkillsUSA is the student organization for middle and high school technology and engineering education programs as recognized by the Wisconsin Department of Public Instruction. SkillsUSA was introduced in 1973 when schools involved with the Wisconsin Industrial Education Association voted to affiliate with a strong national organization. Wisconsin SkillsUSA began its history during the fall of 1973 with 282 members in thirteen schools. Wisconsin SkillsUSA has mentored students for over 40 years. SkillsUSA enhances the preparation for college and careers by providing an intra-curricular program that is integrated into technology and engineering classrooms. SkillsUSA is an applied method of instruction for preparing America's high performance workers in public career and technical programs. It provides quality educational experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. SkillsUSA believes; in the dignity of work, in the American way of life, in education, in fair play, that satisfaction is achieved by good work and in high moral and spiritual standards. SkillsUSA also promotes understanding of the free-enterprise system and involvement in community service.

SkillsUSA Mission
SkillsUSA's mission is to help its members become world-class workers, leaders and responsible American citizens.

SkillsUSA Motto
Preparing for Leadership in the World of Work

Program of Work
The heart of SkillsUSA is the program of work or what chapters do annually. It is the activities and projects—the plan of action—that chapters carry out during the school year. The program of work sets the pace for SkillsUSA in Wisconsin and the nation. The expectation is that each chapter will carry out this program of work. All SkillsUSA programs are in some way related to the following seven major goals.

- **Professional Development**
  To prepare each SkillsUSA member to be college and career ready and ultimately ready for entry into the workforce and provide a foundation for success in a career pathway. Becoming a professional does not stop with acquiring a skill, but involves an increased awareness of the meaning of good citizenship and the importance of labor and management in the world of work.
- **Community Service**
  To promote and improve good will and understanding among all segments of the community through services donated by SkillsUSA chapters and to instill a lifetime commitment to community service.
- **Employment**
  To increase student awareness of quality job practices and attitudes and to increase the opportunities for employer contact and eventual employment.
- **Ways and Means**
  To plan and participate in fundraising activities to allow all members to carry out the chapter's projects.
- **SkillsUSA Competitive Events and Championships**
  To offer students the opportunity to demonstrate their skills and be recognized for them through competitive activities in occupational areas and leadership. SkillsUSA members have the opportunity to experience competitive events at a variety of different levels. Many local middle and high school chapters will attend one of six district events in the state. The next level is to compete in a regional event, then on to the SkillsUSA State

Leadership Conference. Students who are awarded gold medal at the State Leadership Conference advance to the SkillsUSA National Leadership and Skills Competition, where over 15,000 students, advisors, business and industry gather to compete, network, attend educational and leadership sessions and more. And through additional qualifying, some national gold medal winners have the opportunity to compete at the biennial World Skills Competition.

- **Public Relations**
  To make the general public aware of the good work that students in career and technical education are doing to better themselves and their community, state, nation and world.
- **Social Activities**
  To increase cooperation in the school and community through activities that allow SkillsUSA members to get to know each other in something other than a business or classroom setting.

In Summary

Career and Technical Student Organizations, like SkillsUSA, are valuable opportunities for students to develop technical and leadership skills, presents chances to get involved in communities and give back and showcases students' skills and abilities through competition. These opportunities, along with related classroom instruction, support young men and women in preparing for their future endeavors.