

## II. PROGRAM ADMINISTRATION

### A. Statutory Requirements

1. **The eligible agency must prepare and submit to the Secretary a State Plan for a 6-year period; or**

**The eligible agency may prepare and submit a transition plan for the first year of operation of programs under the Act. [Sec. 122(a)(1)]**

Missouri is submitting its five-year plan for the Carl D. Perkins Career and Technical Education Improvement Act of 2006, Public Law 109-270. The five-year plan covers Fiscal Years 2009-2013; July 1, 2008 through June 30, 2013.

2. **Describe the career and technical education activities to be assisted that are designed to meet or exceed the State adjusted levels of performance.**
  - (a) **Describe the career and technical education programs of study, which may be adopted by local educational agencies and postsecondary institutions to be offered as an option to students (and their parents as appropriate) when planning for and completing future coursework, for career and technical content areas that:**
    - (i) **incorporate secondary education and postsecondary education elements;**
    - (ii) **include coherent and rigorous content aligned with challenging academic standards and relevant career and technical content in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education to adequately prepare students to succeed in postsecondary education;**
    - (iii) **may include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits; and**
    - (iv) **lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree;**

During the transition year, Missouri developed a framework and process for secondary and postsecondary education to develop programs of study. The framework includes a full range of activities, documents, and processes that can be incorporated across the state at the local level. Each program of study will include a three-part curriculum framework built around a 4 + 2 (+2) articulation model.

Secondary:

- Career and technical education course competency alignment to the Missouri Show-Me Standards and Grade- and Course-Level Expectations.
- Courses meeting postsecondary (both 2-year and 4-year college) entrance requirements appropriate for the career field within the overall program of study.

- Academic and career and technical education foundation knowledge and skills validated by Missouri industry advisory councils.
- Opportunities for students to earn college credit through dual credit/articulated credit.
- Opportunities for students to earn or make documental progress toward an industry-recognized credential or certificate, if appropriate.
- Opportunities for students to engage in leadership development through the appropriate Career and Technical Student Organization (CTSO).
- Work-based learning experiences for students as early as 9th grade, and where appropriate.

Postsecondary:

- Alignment and/or articulation of competencies between appropriate secondary programs.
- Alignment and/or articulation of competencies between one-year certificate, two-year degree, and four-year degree programs.
- Alignment with industry-recognized knowledge and skills, which leads to a certificate, credential, two-year or four-year degree.
- Preparation for employment in high-skill, high-wage, and/or high-demand careers with multiple exit points.

Business and Industry:

- Work-based learning experiences for students as early as 9th grade, and where appropriate.
- Business and industry participation in an advisory capacity.
- Provides ongoing support for the programs of study, such as teacher mentoring for industry-specific knowledge, assisting with student projects, and relevant experiences that are based upon all aspects of the industry.

In addition to the above criteria, each eligible recipient will show evidence of the following in developing at least one program of study that includes:

- Collaborative efforts with secondary, postsecondary, and business/industry in preparing a gap analysis between course/program outcomes or competencies and industry-recognized knowledge and skills.
- Steps taken to address any gaps found.
- Comprehensive student career guidance and counseling.
- Development of a culture focused on continuous improvement by:
  - Collecting qualitative and quantitative data on academic and career success, retention rates, dropouts, graduation, transition, and remediation;
  - Using data for planning and decision-making at all levels;
  - Providing high-quality professional development for faculty, administrators, and counselors to improve teaching/learning and integration of technical and academic instruction for improved student achievement; and
  - Maintaining ongoing dialogue among secondary, postsecondary, business, and parent partners at the state and local levels.

**(b) Describe how the eligible agency, in consultation with eligible recipients, how the state will develop and implement the career and technical programs of study described in (a) above;**

The Division of Career Education began developing programs of study in September 2006. The programs of study will be designed around the 16 Career Clusters as defined by the States' Career Clusters Initiative. Division of Career Education staff members have been designated as state Career Cluster leaders.

Major steps for development:

- A broad range of trade associations and professionals representing Missouri business and industry were asked to validate the knowledge and skills for all 16 Career Clusters and 81 Career Pathways through an online survey. Over 700 individuals responded to the online validation process that was operational from November 20, 2006 through January 8, 2007.
- A statewide meeting was held on January 25, 2007 with the Industry Advisory Council representatives of the 16 Career Clusters and most of the 81 Career Pathways. The Industry Advisory Councils reviewed and validated the foundation and pathway knowledge and skill statements; reviewed the results from the online validation process; considered needs and expectations at the middle school, high school, and postsecondary grade levels; identified gaps and overlaps; and explored industry credentials and other certifications.
- Based on the feedback from the Industry Advisory Councils and Career Cluster leaders, the Missouri Center for Career Education (MCCE—see page 27) and local educator advisory councils conducted a pilot process to align the Career Cluster foundation and pathway knowledge and skill statements with local education agencies' competencies. This pilot was done with one pathway from Agriculture, Food and Natural Resources, and Health Science. Involved in the pilot was a comprehensive high school, area career center, community college, and a four-year university. The end result was the identification of a ten-step program of study development and implementation process. The process addressed alignment of existing courses/programs (content) within the context of Career Clusters and Pathways and documented steps involved in the development process. As part of the pilot study, the process also allowed for the testing of tools (software) that could be utilized by sites as they begin the implementation process.

The review of the pilot process and example programs of study were presented at the following conferences and professional development events:

- Missouri Association for Career and Technical Education (MoACTE) Summer Conference
- Missouri Council of Career and Technical Administrators (MCCTA)/Missouri Association of Secondary School Principals (MASSP) Fall Conference
- Building Bridges Conference that includes Tech Prep, *High Schools That Work*, and A+ Schools
- Missouri School Counselors Association (MSCA) Fall Conference
- Tech Prep consortium meetings
- Missouri Council of Career and Technical Administrators Spring Conference 2008
- Other appropriate program-specific statewide and regional fall conferences

Because programs of study development and implementation closely resemble the original intent of Tech Prep, the decision was made to utilize the 15 Tech Prep coordinators as facilitators of programs of study development and implementation. The Division commissioned MCCE to develop an

extensive plan for the training of the Tech Prep coordinators in their new role as programs of study facilitators.

In the fall of 2007, MCCE began training the Tech Prep coordinators in the nuances of programs of study development and implementation. The training included information on Career Clusters, rigor and relevance, the Perkins Act, the program of study pilot project, and curriculum design and development. Development of modules related to Career Clusters and rigor and relevance was done as an approach for this work.

A program of study advisory committee was formed. The advisory committee, consisting of secondary and postsecondary representatives and Division Career Cluster leaders, met on December 17, 2007 to provide overall guidance to the process.

In January 2008, the Tech Prep coordinators began developing the additional five pilot programs of study. These pilots are taking place across the state in different clusters. Each pilot site is coordinated by a team of Tech Prep coordinators who will share and document that experience.

Once the pilots are completed in April 2008, the Tech Prep coordinators will compile their experiences and integrate them into a final version for the programs of study implementation process in Missouri. Presentations of this process will be conducted at the MoACTE's summer conference in July.

In September 2008, the 15 Tech Prep coordinators will begin individual programs of study development and implementation processes in their own consortiums under the guidance of the programs of study advisory council.

**(c) Describe how the eligible agency will support eligible recipients in developing and implementing articulation agreements between secondary education and postsecondary education institutions.**

Over the last several years, comprehensive high schools, area career centers, and community colleges established articulation agreements to assist students in continuing their education. All secondary career education programs are required to have at least one articulation agreement/dual credit arrangement with a postsecondary institution. This is emphasized as part of the Missouri School Improvement Program (MSIP), which is the accreditation process for all public school districts in Missouri. Articulation agreements provide a systematic, seamless student transition process from secondary to postsecondary (community colleges) education that maximizes the use of resources and minimizes content duplication.

Traditionally, the emphasis with articulation agreements has been to provide students with as many hours of college credit as possible. The articulation agreements for the same program have varied from one postsecondary institution to another. For instance, the number of hours of credit given, the criteria for awarding the credit, and when students receive the credit for a particular program may be 15 hours at one postsecondary institution and 30 hours at another. Therefore, it was suggested by both secondary and postsecondary career education administrators that criteria be established for statewide articulation agreements that demonstrates what students need to know and are able to do.

Advisory committees were established in 2005-2006 with secondary and postsecondary instructors, community college admissions representatives, community college presidents, and the Missouri Department of Higher Education to determine criteria for statewide articulation agreements. The groups determined that the best course of action is to start with the career education programs that have a national certification/credential which include program competencies and end-of-course/program assessments. The goal in establishing the statewide articulation agreements is to set a minimum number of credits that would be granted to a student rather than trying to establish a maximum amount of credit.

Statewide articulation agreements have been developed and approved by the State Board of Education. These articulation agreements are:

- Automotive Technology – programs accredited by the National Automotive Technology Education Foundation (NATEF)/Automotive Service Excellence (ASE)
- Cisco Networking Academy – programs that participate in the Cisco Networking Academy
- Construction/Carpentry/Building Trades – programs accredited by the Associated General Contractors (AGC) of America or National Center for Construction Education and Research (NCCER)
- Culinary Arts/Hospitality – programs accredited by the American Culinary Federation (ACF) or National Restaurant Association Education Foundation (NRAEF) ProStart®
- Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC-R) – programs accredited by the Partnership for Air Conditioning, Heating, Refrigeration Accreditation (PAHRA) or HVAC Excellence
- Welding – programs accredited by the American Welding Society (AWS) Schools Excelling through National Skills Education (SENSE)

In addition to these statewide articulation agreements, additional program areas that have some type of national certification or accreditation are being pursued, such as Childcare and Graphic Arts/Communications.

**(d) Describe how programs at the secondary level will make available information about career and technical programs of study offered by eligible recipients.**

In conjunction with MCCE, the Division of Career Education will develop the process for local development of programs of study. This process will then be transferred to the local level through a number of professional development opportunities wherein eligible recipients become familiar with programs of study and the strategies for implementation. These professional development opportunities include, but are not limited to:

- The annual summer conference of the MoACTE, in which presentations on the programs of study will be conducted by Division staff at their individual professional organization meetings.
- The Division, in conjunction with MCCE and the Oklahoma Department of Career and Technology Education, has collaborated to develop components of a Career Clusters toolkit. The purpose of the toolkit is to familiarize teachers, counselors, and administrators with Career Clusters and provide them with strategies for implementation.

- Guidance and Placement Services staff from the Division will include programs of study as part of the regional guidance in-service meetings that are conducted in the fall of the school year.
- The Comprehensive Guidance Program includes individual planning as part of its delivery system. The individual planning process is focused around students making a “personal plan of study” that is focused on a Career Path and/or Career Cluster. The programs of study will be used as the guide for developing each student’s personal plan of study.
- Schools will be encouraged to include sample programs of study as a part of their course guides that are developed each year as part of the registration process.
- A special section featuring the sample personal plans of study will be made readily available to students, school counselors, and parents on Department-sponsored Web sites.
- Teacher and counselor educators will be a part of the development of the sample programs of study. However, in order to get the concept out on a broader scale, a special in-service will be held to inform them of the transition to programs of study. Time will be spent during the in-service to discuss strategies to incorporate programs of study in their work with students.
- Professional development and technical assistance provided by MCCE on programs of study implementation.

**(e) Describe the secondary and postsecondary career and technical education programs to be carried out, including programs that will be carried out by the eligible agency, to develop, improve, and expand access to appropriate technology in career and technical education programs.**

The Missouri career education system provides statewide local delivery of services through 12 community college service regions (which in some cases may include multiple community college campuses), 58 area career centers, 1 state technical college, 7 four-year universities offering two-year associate degree programs, and 443 comprehensive high schools. In addition, the system includes two state agencies—the Department of Corrections and the Department of Social Services, Division of Youth Services.

Career education programs operated by local educational agencies (LEAs) that receive state and/or federal funds are approved by the Department of Elementary and Secondary Education. Local educational agencies are required to submit program applications based on the *Application for Approval of Career Education Programs – Secondary/Adult Only*, ([http://dese.mo.gov/divcareered/documents/MCE\\_Secondary\\_and\\_Adult\\_New\\_Program\\_Application.pdf](http://dese.mo.gov/divcareered/documents/MCE_Secondary_and_Adult_New_Program_Application.pdf)), Postsecondary program applications, ([http://dese.mo.gov/divcareered/documents/MCE\\_PS\\_Program\\_Approval\\_Form.pdf](http://dese.mo.gov/divcareered/documents/MCE_PS_Program_Approval_Form.pdf)), are first approved by the Department of Higher Education, then reviewed by the Department of Elementary and Secondary Education for final approval to be eligible for Perkins funding. These LEAs deliver career education instruction in the following six program areas:

1. **Agricultural Education** – Agricultural Education prepares secondary, postsecondary, and adult students for a variety of careers and advanced college or technical training in the Agriculture, Food and Natural Resources System. Career opportunities for students range from positions in agribusiness, food science, agricultural mechanics and technology, plant science and horticulture, animal science, and natural resources conservation. Programs are delivered by the following: four-year "cluster" programs at comprehensive high schools and area career centers;

two-year community college "specific" programs; and "supplemental" and "specific" adult education in high schools, area career centers, and community colleges.

2. Business Education – Business Education is a vital part of our American educational system and has provided a solid foundation of knowledge and skills for over a century. Business Education is education *for* and *about* business. Education *about* business means preparing all learners for the various roles they will play as economically-literate citizens. Education *for* business means building on these general understandings about business in a way that prepares learners to be employed in a variety of careers. These two major thrusts continue as essential components in all business education environments and enable individuals to:
  - participate in a global economic system;
  - function in domestic and international business environments that are characterized by diversity;
  - develop information technology skills for creating and managing information and making decisions; and
  - integrate business concepts and skills with other academic knowledge.
3. Family and Consumer Sciences Education – Family and Consumer Sciences Education (FCS) is a vital part of a quality comprehensive career education program. The program prepares students for essential employment and balancing work and family responsibilities. Included in the first piece of vocational legislation, the Smith Hughes Act of 1917, Family and Consumer Sciences is concerned with the work of the family—the recurring, practical problems of home and family and preparing students for work. The critical elements of study, family, human development, interpersonal relationships, parenting, nutrition and wellness, and family and consumer resources are appropriate for all students. Family and Consumer Sciences Education contributes significantly to the preparation of workers in nearly one-third of the occupations in Missouri. Students can prepare for virtually hundreds of current and emerging careers in fields such as dietetics, interior design, hospitality, fashion, food service, education, consumer services, and family and children services.
4. Health Sciences – The comprehensive Health Sciences program seeks to meet present and predicted needs for health care workers within a health care delivery system characterized by diversity and changing technologies. It is a program that recruits qualified and motivated students and prepares them for pursuit of appropriate health careers. Based on natural and social sciences, the humanities, and a researched body of knowledge, the curriculum is designed to offer a foundation of knowledge and skills necessary to health career preparation. Curriculum concepts incorporate technological advances related to the health care delivery system, including ethics, professionalism, prevention (wellness), patient/client diagnosis, treatment, care, and rehabilitation as a result of disease/disorders. Teaching/learning strategies integrate appropriate workplace basic skills that assist students to use resources and technologies, function as effective members within a complex system, and to access and use appropriate information/data. Guiding students to make relevant connections between abstract theories and concrete applications is emphasized throughout the curriculum. This is especially practiced through team teaching with health professionals and on-site practicum experiences (mentorship/internships).

5. Marketing and Cooperative Education – Marketing Education curriculum provides the framework for implementation of marketing and business concepts for the future entrepreneur, retailer, event planner, banker, physician, lawyer, and sales professional. Whether a student has aspirations of entering a career upon high school graduation or is intent on seeking an Associate Degree, Bachelors Degree, or maybe even an MBA, the skill set gained as a result of mastering the curriculum will be a key ingredient to a successful career.

Cooperative Career Education programs are designed to equip students with the essential skills for career planning and advancement. Participants in this program may have a cross-section of career interests; however, there are strategies common to all occupations regarding career planning and advancement. Full group, small group, and individualized instructional strategies are utilized to assist students in mastering both occupationally-specific and career development competencies.

6. Trade and Industrial Education – Trade and Industrial Education programs are designed to prepare secondary and postsecondary students for rewarding careers in high-demand, high-wage careers. Instruction is also offered through short-term adult education programs to meet the needs of local labor markets. Trade and industrial students participate in instructional units that educate them in standardized industry processes related to: concepts; layout; design; materials; production; assembly; quality control; maintenance; troubleshooting; construction; repair and service of industrial, commercial, and residential goods and products.

Trade and Industrial Education provides students with opportunities for advancement in a wide range of trade and industrial occupations. Completers are prepared for initial employment, further education at the community college, university, apprenticeship program, trade school, military, and/or business ownership. Career options include: commercial and artistic design and production, computer maintenance and networking, construction, cosmetology, culinary arts, engineering, industrial, public service/law enforcement, and transportation systems technologies.

A balanced program of classroom study and practical work experiences produces competent workers who can manage resources, work cooperatively, organize and use information, understand complex systems, and apply appropriate technology. Cooperative education, internship, and apprenticeship experiences are available to students to support learning through the Trade and Industrial Education program.

Additional programs that support the development, improvement, and expansion of student skills in Missouri in career education are:

- Technology Education – Technology Education is the school subject that teaches about the processes used to design, create, and maintain the human-made world. Technological studies, design, innovation, and pre-engineering are other terms used to describe this subject area. The overarching mission of Technology Education as a school program is to develop the human potential of all students for responsible work, citizenship, and leisure roles in a technological

society. To accomplish this, programs must address each of its three primary missions, namely to develop each person's:

- ability to comprehend and apply the concepts of technological systems;
- values and attitudes related to the appropriate use of technology—its tools, machines, materials, processes, and products; and
- ability to use materials, technological processes, and hardware to achieve constructive work skills and enhance occupational opportunity.

Technology Education draws its content from the entire range of technological endeavors, not just industry. Content is also selected by identifying the competencies individuals need to effectively use the products of a technological society. The educational program known as Technology Education derives its content, i.e. the subject matter it teaches, from technology, and not just industry. It is considered to be a body of knowledge or a discipline.

- Project Lead the Way® – Project Lead the Way® (PLTW) is a sequence of courses, combined with traditional college-preparatory mathematics and science courses. It introduces students to the scope, rigor, and discipline of engineering prior to their postsecondary experiences. The program merges academic theory with skills application, critical thinking, and problem-solving resulting in high student performance.
- PLTW Biomedical Sciences Program – The PLTW Biomedical Sciences Program consists of a sequence of four courses: Principles of the Biomedical Sciences, Human Body Systems, Medical Intervention, and Scientific Research. The goal of the program is to provide rigorous and relevant curriculum that is project- and problem-based in order to engage and prepare high school students for the postsecondary education and training necessary for success in the wide variety of careers associated with the Biomedical Sciences including physician, nurse, veterinarian, scientific and pharmaceutical researcher, therapist, and technician.

Missouri is partnering with Oklahoma, Maryland, Indiana, South Carolina, Connecticut, and Ohio to develop the PLTW Biomedical Science Program. The state is using its incentive grant funding to support this initiative. Five Missouri high schools are piloting the program in 2007-2008.

- Missouri Virtual Instructional Program – Beginning with the 2007-2008 school year, students in Missouri's public, private, and home schools have coursework available through the Missouri Virtual Instructional Program (MoVIP). MoVIP offers online courses to students 24 hours a day, 7 days a week. Three courses in career and technical education are being offered during the first year of implementation: Nutrition and Wellness (FCS), Web Design (Business Education), and Personal Finance (Business Education or FCS). Additional career and technical education courses will be offered in subsequent years. A complete list of courses being offered through MoVIP can be found at <http://www.dese.mo.gov/divimprove/curriculum/movip/index.html>.
- Cisco Networking Academies – The Cisco Networking Academy Program is a comprehensive e-learning program that provides students with the Internet technology skills essential in a

global economy. The Networking Academy delivers Web-based content, online assessment, student performance tracking, hands-on labs, instructor training and support, and preparation for industry standard certifications. Missouri currently has 5 regional academies and 54 local academies.

- ProStart® – The ProStart program teaches both culinary essentials and basic foodservice management skills, preparing students to fill the need for skilled managers within the hospitality industry. Students gain a broad range of industry skills and experience to prepare them to enter the job market directly after high school or to continue to postsecondary education. Through this two-year program, students learn through classroom experiences, as well as through participation in internships with qualified foodservice operations and mentors.

ProStart is overseen by a coordinator employed by the Missouri Restaurant Association in cooperation with the Division of Career Education. The coordinator recruits new schools into the program, plans and provides in-service for instructors, and provides ongoing technical assistance, as needed. In the fall of 2007, 2,499 students were enrolled in the program, representing 71 schools.

- Automotive Youth Educational Systems – Automotive Youth Educational Systems (AYES) is a partnership among participating automotive manufacturers, participating dealers, and selected high schools and area career centers. It is designed to encourage young people to consider careers in retail automotive service and to prepare them for entry-level career positions or advanced studies in automotive technology.
- Melior – Developed by Melior, the Web-based automotive technology curriculum is designed for local career education programs. The program supports an instructor's curriculum with self-paced textual resources, interactive visual exercises, and incremental quizzes and tests. These modules include all of the basic concepts to provide a solid foundation for ensuing laboratory work and practice. The online material can be accessed by the student on a 24/7 basis. Instructional content supports Automotive Service Excellence (ASE) certification for students.

There are two state funding sources to provide equipment for secondary and postsecondary programs to upgrade and enhance technology in the classrooms:

- Vocational-Technical Education Enhancement Grant – Funds made available through this grant focus on the initiation of new, and the improvement of, existing occupational preparatory career education programs, curriculum enhancement, instructional equipment and facility improvement, particularly in high-demand occupations. The goal is to expand and enhance the quality of Missouri’s occupational preparatory (long-term) career education programs through the improved alignment with business and industry occupational training needs and increase emphasis on training in occupations that have been determined to be in critical shortage.
- 50/50 Equipment – A small amount of match money will be available to eligible recipients to purchase new equipment and upgrade existing equipment so that the training equipment used in career education programs closely mirrors that of the equipment used in business and industry.

All public school districts in Missouri are required to have a state-approved technology plan. This plan must be tied to school improvement plans and address all five Technology Focus Areas (TFAs): student learning; teacher preparation; administration, data management, communications; resource distribution; and technical support. The plan must include district participation in the e-rate program and participation in projects of the Missouri Research and Education Network (MOREnet), which provides Internet connectivity; access to Internet2; technical support; videoconferencing services and training to Missouri’s K-12 schools, colleges and universities, public libraries, health care, state government, and other affiliated organizations. The district technology plan requirement aligns with the required uses of funds as per Section 135(4)(A)(B).

- (f) Describe the criteria that the eligible agency will use to approve eligible recipients for funds under the Act, including criteria to assess the extent to which the local plan will:**
  - i. Promote continuous improvement in academic achievement;**
  - ii. Promote continuous improvement of technical skill attainment; and**
  - iii. Identify and address current or emerging occupational opportunities.**

The Division will develop a local application that eligible recipients can use when preparing their local five-year plan for submission and approval by the State. The local plan will address all items listed in the Carl D. Perkins Career and Technical Education Improvement Act of 2006 under Section 134(b)(1)-(12). Special emphasis will be placed on the implementation of at least one program of study and the focus on integration of academic and career and technical education. A scoring rubric will be developed that will serve as a guide to review and approve local plans.

In subsequent years, each eligible recipient will be required to submit a local application. The local application will include an improvement plan for each performance indicator that was not within 90% of the final agreed-upon level of performance, a description of how the funds will be used to address those items in the improvement plan, and a detailed budget summary.

The Department of Elementary and Secondary Education is in the process of developing a Department-wide grant application system known as the Missouri electronic Planning and electronic Grant System

(ePeGS) which will include the Perkins grant. The purpose of this project is to create a seamless planning and e-grants process for school districts, other educational institutions, and the Department so there is a comprehensive plan and consistent application process to provide information for budgets and school improvement planning. The goals of the project include:

- a cross-divisional planning process that meets State and Federal requirements and
- a consolidated grant application process that integrates with the planning process to ensure the budget supports the plan and integrates with the allocation and payment of funds.

**(g) Describe how programs at the secondary level will prepare career and technical education students, including special populations, to graduate from secondary school with a diploma.**

As described in (e) on pages 13-18 of this document, Missouri offers a wide range of secondary career education programs in 443 comprehensive high schools and 58 area career centers. Career and technical education is an integral part of the educational program in all of these schools. This is determined by the standards set forth in the MSIP, the state's school accreditation program.

In addition to the standards and indicators in the MSIP, the *Common Standards for Career Education Programs* ([http://dese.mo.gov/divcareered/Common\\_Program\\_Standards.pdf](http://dese.mo.gov/divcareered/Common_Program_Standards.pdf)) were developed during Fiscal Year 2006 with input from teachers and administrators. The standards and indicators are designed to provide guidance and direction to local school districts in establishing, improving, and evaluating career education programs.

As part of the MSIP process, the Division of Career Education requires all career education programs to complete the *Self-Monitoring Report for Career Education* ([http://dese.mo.gov/divcareered/MSIP/MSIP\\_Revised\\_Short\\_Report\\_9-07.doc](http://dese.mo.gov/divcareered/MSIP/MSIP_Revised_Short_Report_9-07.doc)). The *Self-Monitoring Report for Career Education* serves as a tool for school districts to use for program improvement and planning. Aligned with the *Common Standards for Career Education Programs*, the report is used to review local career education programs to determine where standards are being met and where improvements should be made. Findings from the report are used in the district's Comprehensive School Improvement Plan (CSIP) for career education program improvement.

Beginning with the graduating class of 2010, the minimum number of credits for graduation will be 24, up from 22 units. The new graduation requirements place more emphasis on core academic areas. The increased requirements were made by the State Board of Education in response to concerns expressed by both the business community and higher education about the lack of adequate preparation of Missouri's high school graduates for either the workplace or postsecondary education.

Some of the programs and practices currently in place to assist in preparing career and technical education students to graduate from a secondary school with a diploma include:

- Curriculum

All career education programs are expected to have a curriculum guide for each course that is offered by the school district. Each written curriculum guide should include the following components:

- Rationale
- Course description
- Graduate goals
- Measurable learner objectives
- Instructional activities
- Assessments (including performance-based assessments)
- Alignment to Missouri Show-Me Standards and Grade-Level Expectations (GLEs)
- Approval by the local board of education

- Competency Profiles

Competency profiles have been developed by the Division of Career Education and MCCE for virtually all career education programs and courses. Each profile was developed with input from practicing career educators and related business and industry representatives. The competency profiles have measurable learner objectives (MLOs) and task statements for career educators to use as a guide to develop their local curriculum. Most of the competencies have been aligned with the Missouri Show-Me Standards, as well as any applicable national standards. The State anticipates that many of the competency profiles will be revised to reflect the development of programs of study. Additional competency profiles may need to be developed for new courses.

Missouri competency profiles and their corresponding crosswalk document, where available, can be found at <http://missouricareereducation.org/curr/compro.html>.

- Embedded Credit

Embedded credit has recently become more widely recognized as a way for students to complete a rigorous core of both academic and technical coursework. In addition, embedded credit offers an efficient solution for schools and students to meet the increased graduation requirements.

There are two objectives for implementing embedded credit:

- ensure Missouri students have continued opportunities to take a rigorous academic core and career and technical education course(s), and
- prepare students for college and a career by improving their academic achievement and reducing the dropout rate.

These two objectives are specifically relevant to the accountability requirements of the MSIP and Perkins.

In order to assist Missouri schools with creating embedded credit opportunities for students, an Embedded Credit Toolkit is available. The toolkit, developed by MCCE, documents the practices and observations of those who have been involved in embedded credit to date. The toolkit is intended to save educators time during the steep learning curve from exploration to implementation. The toolkit is available at <http://missouricareereducation.org/curr/cmd/adminG/EmbeddedCredit/index.html>.

Beginning in July 2007, MCCE initiated activities to further support embedded credit as an alternative to traditional methods of earning/awarding high school credit. Since developing the Embedded Credit Toolkit, a number of additional embedded credit models have evolved, refinements have been made in the Department's application and documentation processes, and other strategies and tips for successful implementation have been identified. The Missouri Center for Career Education will document and incorporate these developments into an updated version of the original toolkit.

Performance expectations are integral to effective embedded credit practice and assessment of student mastery is an essential measure of accountability, not only for the benefit of the embedded credit program but for participating schools and the students they serve. Because assessment is recognized as a significant component to the process but was not addressed originally, a section pertaining to the development of performance expectations and student assessment will also be included in the updated toolkit.

It has become evident in recent months that the first steps in implementing embedded credit courses are, in many instances, the most difficult. Development and effective implementation depend heavily on early and extensive communications among all parties involved. To facilitate initial collaboration, MCCE will provide technical assistance to aid school districts that are pursuing embedded credit options. Assistance will be designed to address how to begin conversations; maintain open, collaborative dialogue; address challenging questions and concerns; as well as other topics necessary to support embedded credit success.

- Programs of Study and Personal Plans of Study

A requirement of Perkins IV is that school districts will create programs of study which will include a non-duplicative sequence of academic and technical education instruction, comprehensive career guidance and counseling, linkages to postsecondary opportunities, and workplace learning opportunities, among others.

Students will have the opportunity to build their own personal plan of study, the foundation of which will be the program of study, if available, within their identified Career Cluster. This will be accomplished through the Individual Planning Process of a school's comprehensive Guidance Program. The personal plan of study will reflect the coursework needed to complete the program of study including state and local graduation requirements, grade appropriate work-based opportunities, and relevant co-curricular activities in which the students will engage. Such activities may include, but are not limited to, job shadowing, service-learning,

internships, volunteer activities, after school employment, and career and technical student organization activities. The personal plan of study will further reflect the postsecondary goals of the student which will be reviewed annually and revised, as necessary. The MSIP requires that all students have a personal plan of study built around a Career Path and/or Cluster beginning no later than the end of 8th grade.

The Guidance and Placement Services section of the Division of Career Education will focus professional development activities on how schools can improve and strengthen the individual planning process so that meaningful yet rigorous personal plans of study are developed.

- Career and Technical Student Organizations

Career and Technical Student Organizations (CTSOs) are an integral part of career and technical education. Ten secondary, postsecondary, and adult career and technical student organizations exist and are supported within Missouri. More than 75,000 students participate annually in Missouri CTSOs. Students are provided with leadership development opportunities relating to their career interests. Such leadership and career development includes: co-curricular instruction and application of program curricula to individual and group activities/projects; local/district/regional/state/national leadership conferences and workshops; competitive/skill events; community service opportunities; and individual or group recognition activities involving problem-solving and team work. Special populations and nontraditional students are encouraged to participate in these leadership organizations.

- Missouri Option Program

The Missouri Option Program is designed to target students who have the capabilities to complete Missouri high school graduation requirements, but for a variety of reasons lack the credits needed to graduate with their class and are at risk of leaving school without a high school diploma. The Missouri Option Program specifically targets those students who are 17 years of age or older and are at least one year behind their cohort group or for other significant reasons identified in the local Missouri Option Program plan. School districts approved by the Department of Elementary and Secondary Education to participate in the Missouri Option Program can continue to receive average daily attendance funds for the participating students. Additionally, students will remain in school and are not counted as dropouts. Once the school district issues a diploma, participants are then counted as high school graduates. Information on the Missouri Option Program can be found at [http://dese.mo.gov/divcareered/Missouri\\_option.htm](http://dese.mo.gov/divcareered/Missouri_option.htm).

- Career Education Area Technical Learning Centers

The Career Education Area Technical Learning Centers program assists local educational agencies (LEAs) in developing, implementing, and operating programs designed to prevent students from leaving school without a diploma and to encourage those who have left early to return and complete their education. The Career Education Area Technical Learning Centers program specifically targets special population students as identified in the Act, with emphasis on those students that are one-half or one full credit behind their cohort group. The program includes career awareness activities and the opportunity for enrollment into a career skill training program.

Activities that may be provided for individuals include counseling services to assist students in making decisions and adjustments that allow them to reach their full potential. Students are helped to identify careers that most appropriately fit their interests and abilities. Instruction is provided in:

- workplace readiness;
- assessment that includes evaluation of prior and current skills, knowledge, and interests through educational and occupational assessments; and
- basic skills instruction through the use of applied curriculum materials and individualized instruction.

- Career Prep Certificate Program

Missouri schools strive to develop in students the knowledge, skills, and attitudes necessary for a successful and productive career. Part of a successful career is to have skills necessary to succeed in the workforce and to meet employer expectations. To assist in meeting those expectations, the Missouri General Assembly passed Senate Bill 894 during the 2006 session.

This legislation charged the Department of Elementary and Secondary Education to develop a voluntary program that enables high schools to endorse a certificate for students who meet certain standards demonstrating that the students are “ready to work.” The Career Preparation Certificate Program is designed for high school seniors who choose to participate. In developing the program, the Department established a statewide advisory committee. It was comprised of representatives from employers, chambers of commerce, local workforce service providers and postsecondary institutions, as well as school administrators, counselors, and students. The group was charged with developing the following program components:

- academic components;
- work readiness components;
- assessment tools and techniques for a third party, independent, and objective assessment and endorsement of individual student achievement through an existing workforce investment service delivery system; and
- an easily identifiable guarantee to potential employers that the entry-level employee is ready to work.

The group met monthly to develop the program components, utilizing Web conferencing technology for five of the meetings. Additional guests also participated in meetings by presenting and lending their expertise to planning efforts. From the direction of the advisory committee, a planning guide was developed to assist with local implementation of a Career Prep Certificate Program. The guide provides a framework for communities, large or small, to design a program that meets the needs of their employers. It provides guidance for successful coordination of programs and initiatives that can be packaged into a meaningful certificate. [http://dese.mo.gov/divcareered/career\\_prep\\_certificate/CPC\\_Planning\\_Guide.pdf](http://dese.mo.gov/divcareered/career_prep_certificate/CPC_Planning_Guide.pdf).

- Missouri Virtual Instructional Program

Beginning with the 2007-2008 school year, students in Missouri’s public, private, and home schools have coursework available through the Missouri Virtual Instructional Program

(MoVIP). MoVIP offers online courses to students 24 hours a day, 7 days a week. Three courses in career and technical education are being offered during the first year of implementation: Nutrition and Wellness (FCS), Web Design (Business Education), and Personal Finance (Business Education or FCS). Additional career and technical education courses will be offered in subsequent years. A complete list of courses being offered through MoVIP can be found at <http://www.dese.mo.gov/divimprove/curriculum/movip/index.html>.

- (h) Describe how programs at the secondary level will prepare career and technical education students, including special populations, academically and technically for opportunities in postsecondary education or entry in high-skill, high-wage, or high-demand occupations in current or emerging occupations, and how participating students will be made aware of such opportunities;**

In addition to the programs and services described in (g) on pages 19-23, the following programs and services will be made available or are in the process of development:

- Comprehensive Guidance Program

The Comprehensive Guidance Program provides a framework designed to assist students in acquiring and using life-long learning skills through the development of academic, career, and personal/social skills. It is developmental by design and includes sequential activities organized and implemented by certified school counselors, with the active support of teachers, administrators, students, and parents. The Comprehensive Guidance Program is designed to serve all students in grades K-14.

One of the purposes of the Comprehensive Guidance Program is to assist students in making informed educational and career decisions through a process called “Individual Planning.” Guidance programs in Missouri provide the resources and materials needed to ensure this process unfolds in a systematic manner with particular emphasis given to individual planning at the secondary level.

The Guidance and Placement Services section of the Missouri Department of Elementary and Secondary Education provides a uniform, yet flexible model for Comprehensive Guidance Programs in comprehensive high schools and area career centers. The components of the programs focus on student attainment of knowledge and skills to help ensure a successful transition to a postsecondary experience and provide for accountability and program improvement.

- Articulation Agreements/Dual Credit Arrangements

See page 12 for approved list.

- Industry Certifications

Industry certifications are a part of the curriculum at both the secondary and postsecondary levels. These industry certifications include, but are not limited to:

- American Welding Society (AWS)
- Associated General Contractors (AGC)

- Automotive Service Excellence/National Automotive Technician Education Foundation (ASE/NATEF)
- Child Development Associate (CDA)
- Cisco Networking Academy
- Heating, Venting, Air Conditioning (HVAC) Excellence
- Microsoft Office Specialist (MOS)
- National Restaurant Association Education Foundation's (NRAEF) ProStart and ServSafe™

These certifications at both the program level and student level provide some assurances that students are being taught to industry standards, and those who receive individual certifications are prepared to enter the workforce with a standard set of skills.

- Missouri Connections

*Missouri Connections.org* currently is an educational and career planning information system for students in grades 6 through 14. It is sponsored and guided by the Department of Elementary and Secondary Education in collaboration with several partners interested in helping students make meaningful connections with education, career preparation, and employment demand, thereby helping Missouri better prepare its workforce to meet the needs of business and industry. Partners include the Department of Economic Development, the Division of Workforce Development, MERIC, the Department of Higher Education, and an advisory board. The Department and its partners are exploring the feasibility of expanding the system to serve adults, as well as business and industry, in the belief that career development is a life-long process, and that individuals who develop strong skills and positive attitudes toward life-career development are more likely to choose the education, training, and employment that meet their needs and the needs of the workplace.

- Missouri Economic and Research Information Center

The Missouri Economic and Research Information Center (MERIC) is the research division for the Department of Economic Development. The agency provides innovative analyses and assistance to policymakers and the public, including studies of the state's targeted industries and economic development initiatives. Other MERIC research includes Economic Condition Reports, Economic Impact Assessments, and Labor Market Information produced in cooperation with the U.S. Department of Labor.

Missouri educators and students have access to a wide range of data on economic development and workforce trends through MERIC's comprehensive Web site at [http://www.missourieconomy.org/customer/edu\\_stu.stm](http://www.missourieconomy.org/customer/edu_stu.stm).

MERIC will be assisting the Division in identifying high-wage, high-skill, and high-demand occupations for years two through six of Perkins IV.

MERIC, the Department of Higher Education, the Department of Economic Development, the Division of Workforce Development, the State Chamber of Commerce and Industry, and the Division of Career Education have reaffirmed the value of partnering together to coordinate

mutual efforts toward Missouri's career and economic development processes. The following areas of development are being approached in a collaborative fashion:

- Creation, printing, and distribution of Career Cluster posters and "Hot Jobs" fliers
- WIA Incentive Grant activities
  1. Updated Missouri Career Guide materials for students (partial consolidation into GOALS notebooks)
  2. Production of a Career Clusters video
  3. Public Outreach strategies
  4. Partnership development
- Career Clusters toolkit
- *Missouri Connections* Web site (strong connections to data on MERIC's Web site)
- Shared planning for outreach, funding, and sponsorship strategies

Additional topics for partnering include: supply and demand (of graduates), the emergence of work readiness certifications, and the new Perkins IV emphasis on high-demand, high-skill, and high-wage occupations.

- Career Education Coordinators

The Division of Career Education, through the MCCE, supports eight regional Career Education Coordinators. The coordinators form a network of professionals focusing on nontraditional career awareness, as well as providing information and expertise in career awareness, exploration, and planning for various audiences using the national Career Clusters Initiative as the basis for their work.

Missouri was one of five states selected to participate in the National Alliance for Partnerships in Equity (NAPE) Math, Engineering, Technology, and Science (METS) Equity Pipeline Project. The METS Equity Pipeline's goal is to increase participation of females in secondary and postsecondary METS cluster programs of study necessary for successful secondary/postsecondary transition and degree completion.

The eight Career Education Coordinators will be trained as facilitators to assist school districts in attracting females to METS occupations.

- (i) **Describe how funds will be used to improve or develop new career and technical education courses:**
  - i. **At the secondary level that are aligned with rigorous and challenging academic content standards and student academic achievement standards adopted by the State under Section 1111(b)(1) of the Elementary and Secondary Education Act of 1965, as amended;**
  - ii. **At the postsecondary level that are relevant and challenging; and**
  - iii. **That lead to employment in high-skill, high-wage, or high-demand occupations**

Perkins funds will be utilized in a number of ways to assist in improving existing and developing new career and technical education courses/programs:

- Missouri Center for Career Education

The Missouri Center for Career Education (MCCE) was established on July 1, 2003 by a grant awarded by the Division of Career Education. The Center is located at the University of Central Missouri in Warrensburg within the College of Education, Department of Career and Technology Education.

MCCE provides quality curriculum and research, targeted professional development, and innovative instructional resources to support the career and technical education system in Missouri. The Missouri Center for Career Education fulfills this mission by:

- working collaboratively with the Division of Career Education, educational institutions and organizations, and representatives from Missouri's businesses and industries;
- developing and maintaining a well-balanced, organized, and accessible collection of resources reflecting quality standards supporting the curriculum and instruction of career and technical education;
- providing training systems to address the professional development needs of career and technical educators;
- contributing to Missouri's commitment to diversity and gender equity;
- establishing networking links within the state's educational community and effectively and efficiently coordinating statewide educational events; and
- offering a well-qualified staff, committed to service and accomplishment.

Some of the specific projects conducted by MCCE to date include:

- Development of the Embedded Credit Toolkit;
- New Teacher Institute (NTI);
- Career Education Mentoring Program;
- Development of Personal Finance Model Curriculum and Online Assessment;
- Developing Career Clusters toolkit; and
- Developing Model Programs of Study Implementation Process.
- 

- National Initiatives

Missouri is part of several national curriculum initiatives and will continue to provide funds to support the following initiatives:

- Project Lead The Way<sup>®</sup> (PLTW) [see page 16 for description]
- PLTW Biomedical Sciences Program [see page 16 for description]
- Cisco Networking Academies [see page 16 for description]
- Automotive Youth Educational Systems (AYES) [see page 17 for description]
- High School of Business<sup>™</sup> - The High School of Business experience prepares high school students to excel in a college business program. It is an academy-style program developed by the Marketing Education Resource Center (MarkED) consisting of five or more near-college-level business courses and two pre- and/or co-requisites. This project-based learning environment opens students' minds to solving business problems using the academic skills gained in math, English, and social sciences courses.

Education's "new 3 R's" can be used to convey how High School of Business will reach and teach students in the 21<sup>st</sup> Century.

- CASE (Curriculum for Agricultural Science Education) – Missouri has joined with the National Council for Agricultural Education in the development of a new agricultural education program designed to address the technological and scientific workforce needs for teaching and learning agricultural science. The CASE model is based on foundation courses for freshman- and sophomore-level students.
- R-Factor Learning – The Missouri Center for Career Education is working on an initiative titled R-Factor Learning. The initiative is designed to support educators in school reform to specifically address rigorous and challenging learning for all students. The Missouri Center for Career Education utilizes the work of Dr. Willard Daggett, International Center for Leadership in Education, which builds the rigor utilizing Bloom's Taxonomy upper levels of application, analysis, synthesis, and evaluation in lesson design. The study of R-Factor Learning refreshes educator's connection to Bloom's Taxonomy pushing it to the upper levels in designing learning experiences.

R-Factor Learning helps students experience meaningful connections while learning through rigor, relevance, relationships, and responsibilities. It incorporates these factors to push student learning while allowing them to explore and pursue their hopes and dreams of a career and role as an adult.

R-Factor Learning was piloted through the Southeast Regional Professional Development Center for high schools in its consortium school districts. The audience was made up of both individuals and teams. The model is comprised of two sessions separated by 4-6 weeks. This allowed the participants to try some of the strategies, to come back with questions, and to seek reinforcement of the concepts.

Career Clusters and the rigor and relevance framework have been used around the state as separate professional development offerings in the past. The more work that has been done with both, the more obvious it became that together they provided a sound foundation to strengthen teaching and learning.

Scenario-based learning is the primary focus for instructional strategies in this model as recommended by the National Career Clusters Initiative. The University of Missouri Medical School has used this model for a number of years with proven success based on national board exams. This model moves teaching and learning to higher levels of rigor and relevance for student engagement and achievement.

This professional development will be delivered in conjunction with the Regional Professional Development Centers across the state. Practitioners from the field will be selected to form a cadre of trainers with specific training and preparation to deliver the R-Factor Learning workshops. The cadre will consist of teachers, counselors, and administrators, along with some Tech Prep Coordinators and Career Education Coordinators.

- VTECS

Missouri is a member of the VTECS consortium. VTECS has a 30-year history of operating as a consortium of states where members pool resources to develop competency-based career and technical education products that are validated by business, industry, and labor. In order to develop these products, VTECS employs a complete occupational analysis system whereby data is collected from incumbent workers for the specified occupational area. VTECS works with numerous federal and state agencies to promote the systematic research, development, and implementation of competency-based career-technical education and training.

- (j) **Describe how the eligible agency will facilitate and coordinate communications on best practices among successful recipients of Tech Prep program grants under Title II and other eligible recipients to improve program quality and student achievement.**

The Division of Career Education will disseminate information on best practices to eligible recipients through the annual MoACTE summer conference, technical assistance visits, e-mail, Web site postings, MCCE, and the Building Bridges Conference.

- (k) **Describe how funds will be used effectively to link academic and career and technical education at the secondary level and at the postsecondary level in a manner that increases student academic and career and technical achievement.**

Funds will be used for professional development activities that focus on student achievement of both academic and career and technical achievement. These professional development activities will include, but not be limited to:

- developing programs of study;
- R-Factor Learning (Rigor, Relevance, and Relationships);
- assisting school districts in developing transition courses for students entering high school unprepared to take rigorous content, and for those students identified as likely candidates for remediation upon entering postsecondary education;
- integration of mathematics and career and technical education (CTE) content; and
- developing embedded credit courses.

Further, the following professional development topics were identified as priorities for Perkins IV during a professional development planning meeting held November 11, 2006:

- using data to improve teaching and learning;
- instructional strategies that meet the needs of diverse students;
- connections with industry, including working with advisory committees;
- defining rigor in the different disciplines; and
- raising expectations in CTE courses.

- (l) **Describe how the eligible agency will report on the integration of coherent and rigorous content aligned with challenging academic standards in career and technical education programs in order to adequately evaluate the extent of such integration. [Sec. 122(c)(1)(A)-(L)]**

Missouri has two opportunities to measure student academic success: the Missouri Assessment Program (MAP) and the *High Schools That Work (HSTW)* assessment.

- Missouri Assessment Program and End-of-Course Assessments

In 1997, Missouri began implementing a performance-based assessment system for use by all public schools in the state, as required by the Outstanding Schools Act of 1993. The assessment system, known as the Missouri Assessment Program (MAP), is designed to measure student progress in meeting the Missouri Show-Me Standards. The Department worked with teachers, including career and technical education teachers, school administrators, parents, and business professionals throughout the state to develop the Missouri Show-Me Standards, a set of 73 state-adopted rigorous academic performance standards. The State Board of Education adopted the Missouri Show-Me Standards in 1996. The standards describe what graduates of the state's public schools must know and be able to do. To achieve proficiency in the Missouri Show-Me Standards, students must have a strong foundation of knowledge and skills in basic subject areas and must be able to apply what they know to new situations and real-world problems.

The MAP assessments addressed six content areas: mathematics, communication arts, science, social studies, health/physical education, and fine arts. However, due to budget cuts, the Department suspended the assessments of health/physical education, fine arts, science, and social studies. School districts are required to administer only the communication arts and mathematics assessments, as required by No Child Left Behind.

The MAP assessments incorporate three types of test questions in order to evaluate student achievement: multiple choice questions, requiring students to select the correct answer; constructed-response items, requiring students to generate an appropriate response; and performance events, requiring students to respond to, solve problems, or address issues of a complex nature.

Missouri uses an alternate to the statewide assessment for students whose disabilities are so severe that they cannot participate in the regular MAP testing. The Department developed the MAP-Alternate (MAP-A) to allow the participation of severely-disabled students.

The MAP assessments yield data about individual and group academic achievement. The data includes a national percentile rank, achievement levels, and raw scores by content standard/strand. Each level of achievement – Below Basic, Basic, Proficient, and Advanced – has accompanying descriptors that articulate the skills associated with that particular level.

Beginning with the 2008-2009 school year, Missouri plans to replace the current high school MAP tests in math, communication arts and science. These tests will be replaced with the

course-specific tests in algebra I, biology, and English II. During the 2009-2010 school year, additional course-specific tests will be offered in algebra II, geometry, integrated math II, integrated math III, English I, government, and American history.

The course-specific tests will be used to measure academic attainment of career education students in communication arts/reading and mathematics as required in Perkin IV.

- High Schools That Work Assessment

Thirty-seven high schools and six area career centers in Missouri are participating in the *High Schools That Work (HSTW)* network. Missouri is one of 32 states that participate in the *HSTW* network which also includes *Technology Centers That Work (TCTW)*, a version of *HSTW* which has been tailored for shared time CTE centers. *HSTW* is an effort-based school improvement initiative founded on the conviction that most students can master rigorous academic and career/technical studies if school leaders and teachers create an environment that motivates students to make the effort to succeed.

A requirement to participate in *HSTW* or *TCTW* is to administer the *HSTW* assessment. The NAEP-based achievement tests in reading, mathematics, science, and a survey of student experiences is administered in even years to 12th grade students.

*High Schools That Work* links student performance to a set of key practices in a way that helps high school leaders, teachers, and communities improve the achievement of academic and career/technical students and identifies seniors who qualify for the *HSTW* Award of Educational Achievement.

Missouri continues to address integration of academic and career and technical education skills through several initiatives.

- R-Factor Learning

See page 28 for description.

- Transition Course Development

In an effort to help schools provide more students with the skills needed to take rigorous career and technical education courses, the Division of Career Education sponsored the Southern Regional Education Board's (SREB) training module, *Developing a Ninth-Grade Catch-Up Course in Algebra I*. Together, the training prepared mathematics teachers from high schools and middle schools to develop a course for their own school district for those students entering high school not yet prepared to take college preparatory math content. With those skills in hand by the end of the freshman year, students will be able to take more rigorous content throughout their high school experience, including CTE study.

The initial three days of this professional development opportunity were offered at the 2006 Building Bridges Conference. The first two-day call-back session occurred in January 2007. The final two-day call-back session was in May 2007.

Similar to the SREB offerings which are concentrated into an intensive, week-long experience, the Missouri model teams work together to:

- examine and modify model standards-based algebra units proven to be successful in engaging students to master the essential standards;
- decide how to adapt the model units for use in their home schools;
- develop a plan for working with teachers in their home schools to use the template as a model instructional plan; and
- develop a course syllabus that incorporates the model units and the instructional strategies that help students master critical standards, such as effective study skills and working in teams.

In November 2007, the Division of Career Education began the second phase of transitional course development training for teachers and school districts seeking assistance for incoming 9th graders not prepared for college preparatory English/communication arts and seniors identified that were not prepared to take credit-bearing mathematics upon entering postsecondary education. Each of these professional development components will follow the same pattern of two separate two-day call-back sessions during the year to complete the training.

- Math and CTE (Career and Technical Education) Integration

A similar professional development opportunity was launched at the 2007 Building Bridges Conference held in November 2007. The Division of Career Education sponsored a training module designed by the SREB as a pre-conference session for faculty teams. The module focused on an eight-step process for integrating mathematics and CTE studies. Math and CTE teacher teams from across the state were identified for seven Career Clusters. Two-day call-back sessions were conducted in January and again in March. A prototype design template for Authentic Integrated Project Units is the resulting outcome of the eight-step process. The process and template will be disseminated during breakout sessions of the divisions represented by the respective Career Clusters during the Missouri ACTE conference in July 2008.

- Embedded Credit

See page 20 for description.

- Curriculum Alignment Initiative

The Curriculum Alignment Initiative (CAI) is part of the Missouri Department of Higher Education's strategy to increase participation in higher education and to smooth pathways for students entering into and progressing into higher education. The goal of this work is to improve the college readiness of students throughout Missouri, by clearly articulating to high school students what it means to be college ready and to smooth transfer of entry-level collegiate courses. CAI is mandated by Senate Bill 389 and directs public colleges and universities to work the Coordinating Board for Higher Education to develop entry- and exit-level competencies for entry level collegiate coursework. CAI also is driven by the work of the state's METS Coalition and the P-20 Council.

- P-20 Council

The mission of the [Missouri P-20 Council](#) is to develop a more coherent system of P-20 education (pre-school through graduate school) where each level of education – preschool, elementary, middle school, high school, college and workforce training – prepares students well for the next level, with an eye towards the world of work.

The Council consists of the state’s two education agencies – Department of Elementary and Secondary Education and Department of Higher Education; and unlike most states, the Department of Economic Development, the agency with primary responsibility for meeting the needs of business and industry. The job of the P-20 Council is to provide better, stronger, more aligned education and workforce training systems. This alignment of systems and programs will make it easier for all Missourians to get the skills and education they need to compete in an increasingly competitive, global economy.

- Missouri Student Information System

The Department began implementing the Missouri Student Information System (MOSIS) in the summer of 2005. The system creates a randomly-generated state identification number for every student receiving services in the public schools. The MOSIS number was used to pre-code students’ spring 2007 MAP test booklets. Over 90 percent of Missouri school districts voluntarily participated in the process.

In the fall of 2006, the Department started moving the current Core Data collection system from an “aggregate” system to a student-level collection system. In June 2007, the Department piloted the reporting of Core Data at a student level.

The goals of MOSIS are to reduce data burden on local schools and districts, encourage better policy-making by maintaining a cost-effective and reliable method of reporting and accessing accurate and timely educational information, and eliminate the need for manual operations before data can be used. Through the use of the state identifier, MOSIS will provide more accurate data, reduce the time needed for data collection, and allow quicker responses to data requests, including Perkins accountability data.

- 3. Describe how comprehensive professional development (including initial teacher preparation and activities that support recruitment) for career and technical teachers, faculty, administrators, and career guidance and academic counselors will be provided, especially professional development that-**
  - (a) Promotes the integration of coherent and rigorous academic content standards and career and technical education curricula, including through opportunities for academic and career and technical teachers to jointly develop and implement curricula and pedagogical strategies;**
  - (b) Increases the percentage of teachers that meet teacher certification or licensing requirements;**
  - (c) Is high quality, sustained, intensive, and focused on instruction, and increases the academic knowledge and understanding of industry standards, as appropriate, of career and technical education teachers;**

- (d) **Encourages applied learning that contributes to the academic and career and technical knowledge of the student;**
- (e) **Provides the knowledge and skills needed to work with and improve instruction for special populations; and**
- (f) **Promotes integration with professional development activities that the State carries out under Title II of the Elementary and Secondary Education Act of 1965, as amended, and Title II of the Higher Education Act of 1965, as amended. [Sec. 122(c)(2)(A)-(G)]**

#### Professional Development Planning

In November 2006, the Division met with other education partners to develop a comprehensive plan of professional development. A staff member from the Southern Regional Education Board (SREB)/*High Schools That Work* initiative facilitated the two-day meeting. The focus of the two-year professional development plan is student-centered and is based on Bill Daggett's Rigor and Relevance Framework. It shifts teachers from a teacher-centered classroom to more student-centered instruction. Top priorities of the professional development that will be administered include:

- instructional strategies that meet the needs of diverse students;
- connections with industry expectations and standards, including working with advisory committees;
- defining rigor in the different disciplines;
- using data to improve teaching and learning; and
- raising expectations in CTE courses.

#### State-Level Professional Development Activities

Within the Division, individual program sections have the opportunity to apply for professional development funds. These funds can be used for professional development activities and events that are student-centered and follow the high-quality professional development standards that the Department has set forth for all teachers and administrators in the state and meet No Child Left Behind standards for high-quality professional development.

Each program section must develop a professional development plan which lists the overall goal(s) and objective(s). It must include a description of how the professional development is sustained, is of high quality, and how it is linked to the rigor and relevance framework described above.

All professional development events/activities are evaluated using a common evaluation instrument that was developed by the Division.

Some of the professional development activities and events sponsored by the program sections include, but are not limited to:

- Farm Business Management Analysis (FBMA) Education Program – Agriculture Education
- Centers of Excellence Workshop series – Business and Marketing Education
- Emerging Technologies Workshops – Business and Marketing Education
- Teacher Leader Cadre – Family and Consumer Sciences

- Meeting Child Development Associate (CDA) requirements, Embedded Credit, and Integrating Leadership through FCCLA – Family and Consumer Sciences
- Melior Curriculum and Training – Automotive Technology
- Results-Based Evaluation – Guidance
- Internal Improvement Review – Guidance

Professional development relating to the integration of academic and career education

- R-Factor Learning  
See page 28 for description.
- Transition Course Development  
See page 31 for description.

Professional development related to increasing the percentage of teachers that meet teacher certification or licensing requirements

- New Teacher Institute  
New Teacher Institute (NTI) is a year-long comprehensive professional development program for new career education teachers. The primary purpose of NTI is to equip beginning career education teachers in developing teaching and instructional management skills needed to perform effectively in the classroom and laboratory. NTI is intended for new career education teachers who do not have a Bachelor of Science degree in teacher education. NTI has three broad goals:
  1. Develop pedagogical skills of new career education teachers,
  2. Identify resources to support new career education teachers, and
  3. Establish a support network for new career education teachers.

Beginning with the 2007-2008 school year, a new component was added to NTI called the Late Session NTI. The purpose of the Late Session NTI is to assist new career education teachers that were hired after the week long NTI summer session.

One other important component of NTI is the Master Teacher Institute. The Master Teacher Institute is designed to train experienced career education teachers to serve as master teachers for the NTI. Master teachers assume the role of a teacher educator. Master teachers are selected to offer NTI participants a variety of technical experience as well as experience from both the secondary and postsecondary levels.

Additional information regarding NTI can be found at <http://missouricareereducation.org/pd/nti.html>.

- Induction Program  
Although designed primarily for career education teachers, the induction program will also involve and provide targeted activity for counselors and administrators. The three-year induction program will be implemented to address the needs of first- and second-year educators and will include the NTI and the Career Education Mentoring Program as components. However, new additions will be made to each of the existing components. The program

additions will encompass coursework for certification, participation in learning modules, networking, professional development opportunities, access to instructional resources, and administrator support. *Resources @ MCCE* (<http://missouricareereducation.org/res/index.html>) will provide information to teachers regarding content and availability of support materials through the lending library. Informative *Resources @ MCCE* sessions will be conducted during NTI and mid-year mentoring meeting.

The Department's Web site has a section dedicated to Educator Recruitment and Retention (<http://www.dese.mo.gov/divteachqual/teachrecruit/>). Information in this section includes: Special Education and Counselor Reimbursement programs, Missouri Teacher Education Scholarship, Missouri Minority Teaching Scholarship, Career Ladder, and Loan Forgiveness, as well as an interactive Web site that allows districts to search for available teachers and for teachers to search for available positions ([www.successlink.org/jobs](http://www.successlink.org/jobs)).

The Department is required to prepare an annual report for State lawmakers about the state of the teacher workforce in Missouri public schools. The latest report was presented to the State Board of Education in November 2006. It analyses key statistics and trends over the past decade (1994-2006) ([http://www.dese.mo.gov/divteachqual/teachrecruit/Recruit\\_report.pdf](http://www.dese.mo.gov/divteachqual/teachrecruit/Recruit_report.pdf)).

- Online/Distance Learning Opportunities

Guidance and Placement Services, in cooperation with MCCE and eMints, is developing three projects related to online/distance learning. They are: a) short-term training opportunities on how to conduct an internal review for guidance and counseling program improvement; b) writing the MSIP Standard 6.9 when participating in a 4<sup>th</sup> cycle Missouri School Improvement review; and c) a graduate-level course on comprehensive guidance programs designed primarily for administrators. These projects will lay the foundation for the expansion of online opportunities in other areas of career education.

In addition, MCCE, in cooperation with the University of Central Missouri, is exploring the viability of offering courses required for initial certification of career education teachers through the eMints delivery system.

- Set Expenditure Requirements for Eligible Recipients

Local grant recipients will be required to budget no less than 5 percent of their annual allocation to support institutional and individual professional development plans. These funds should be used in conjunction with other locally-available funds to support professional development for career education faculty and administrators. The funds made available through this Act may not supplant local professional development funds.

**4. Describe efforts that the eligible agency and eligible recipients will make to improve—**

- (a) the recruitment and retention of career and technical education teachers, faculty, and career guidance and academic counselors, including individuals in groups underrepresented in the teaching profession; and**
  - (b) the transition to teaching from business and industry, including small business.**
- [Sec. 122(c)(3)(A)-(B)]

The Division sponsors several initiatives related to recruitment and retention and the transition to teaching:

- Career Education Mentoring Program

For the past five years, the Division has operated the Career Education Mentoring Program. The program is a two-year program that pairs new teachers/counselors (protégés) with experienced teachers/counselors (mentors) in the program area. The purpose is to give new teachers/counselors the opportunity to learn from an experienced teacher/counselor in the same discipline rather than from a teacher/counselor in their home district in a totally different discipline.

The goals of the Career Education Mentoring Program are to:

- offer a professional learning community to new and returning teachers along with mentor teachers/counselors that includes collaboration and reflection;
- become familiar with the teaching and administrative culture by content area;
- support new and returning teachers in their work with students; and
- build a cohort group of new and returning teachers/counselors, particularly in the content area.

- Missouri Administrator Mentoring Program

The Missouri Administrator Mentoring Program (AMP) was designed by statewide stakeholders and implemented in 2005 in response to a State Board of Education regulation. Beginning with the 2005-2006 school year, new school leaders, including school principals, assistant principals, career education directors, special education coordinators and other central office personnel, contracted with the Department for mentoring services over a two-year period. New superintendents of schools contracted for a one-year mentoring program. Mentors complete training addressing cognitive coaching skills and Interstate School Leaders Licensure Consortium (ISLLC) standards. Other training is provided by professional organizations, regional professional development centers, colleges and universities, and the Department.

Since 2005, over 230 new school leaders have received mentoring services.

- New Teacher Institute (NTI)

See page 35 for description.

- Induction Program

See page 35 for description.

5. **Describe efforts that the eligible agency and eligible recipients will make to improve the transition of sub-baccalaureate career and technical education students into baccalaureate degree programs at institutions of higher education. [Sec. 122(c)(4)]**

Programs of study in Missouri will be developed around a 4 + 2 + (2) articulation model. This includes:

- Courses meeting postsecondary (both 2-year and 4-year college) entrance requirements appropriate for the career pathway within the overall program of study;
- Alignment and/or articulation of competencies between one-year certificate, two-year degree, and four-year degree programs;
- Alignment with industry-recognized knowledge and skills, which leads to a certificate, credential, two-year or four-year degree;
- Collaborative efforts with secondary, postsecondary (two-year and four-year institutions), and business/industry in preparing a gap analysis between course/program outcomes or competencies and industry-recognized knowledge and skills; and
- Maintaining ongoing dialogue among secondary, postsecondary, business, and parent partners at the state and local levels.

As local grant recipients begin the development and implementation of programs of study, institution-level participants should include, but not be limited to:

- four-year baccalaureate degree institution administrator/program chair;
- community college president;
- community college vice president for instruction;
- community college technical dean, director of workforce development, or director of technical programs;
- school district superintendents;
- area career center director;
- high school principal;
- parents; and
- counselor(s).

Program level participants should include:

- four-year baccalaureate degree institution faculty;
- community college faculty;
- school district faculty; and
- area career center faculty.

**6. Describe how the eligible agency will actively involve parents, academic and career and technical education teachers, administrators, faculty, career guidance and academic counselors, local business (including small businesses), and labor organizations in the planning, development, implementation, and evaluation of career and technical education programs in your State. [Sec. 122(c)(5)]**

Section 178.560 of the Revised Statutes of Missouri requires each area career center, school district, or postsecondary institution receiving state or federal career education funds to appoint and maintain a career education advisory committee to give advice and assistance to the school boards or governing

boards in the establishment and maintenance of career education programs. These advisory committees must include, but are not limited to, at least one individual representing each of the following groups: parents, students, teachers and administrators, business/industry, and labor. Local committees must have appropriate representation of both genders and an appropriate representation of the racial and ethnic minorities found in the area which the committee serves. Local advisory committees must advise the districts and programs on current job needs and the relevance of programs being offered in meeting current job needs.

During the early stages of programs of study development, a broad range of trade associations and professionals representing Missouri business and industry were asked to validate the knowledge and skills for all 16 Career Clusters and 81 Career Pathways through an online survey. Over 700 individuals responded to the online validation process that was operational from November 20, 2006 through January 8, 2007.

A statewide meeting was held on January 25, 2007 with the Industry Advisory Council representatives of the 16 Career Clusters and most of the 81 Career Pathways. The Industry Advisory Councils reviewed and validated the foundation and pathway knowledge and skill statements; reviewed the results from the online validation process; considered needs and expectations at the middle school, high school, and postsecondary grade levels; identified gaps and overlaps; and explored industry credentials and other certifications.

It is anticipated that the Industry Advisory Councils will be called upon periodically to revalidate the knowledge and skills, as well as to provide needed input on various items related to programs of study and career education programs.

- 7. Describe efforts that the eligible agency and eligible recipients will make to—**
  - (a) Improve the academic and technical skills of students participating in career and technical education programs, including by strengthening the academic and career and technical components of career and technical education programs through the integration of academics with career and technical education to ensure learning in--**
    - i. The core academic subjects (as defined in Section 9101 of the Elementary and Secondary Education Act of 1965, as amended); and**
    - ii. Career and technical education subjects;**
  - (b) Provide students with strong experience in, and understanding of, all aspects of an industry; and**
  - (c) Ensure that students who participate in career and technical education programs are taught to the same challenging academic proficiencies as taught to all other students. [Sec. 122(c)(7)(A)-(C)]**

Students who participate in career and technical education programs are taught to the same challenging academic proficiencies as taught to all other students in Missouri's public schools.

- MAP and End-of-Course Assessments  
See page 30 for description.

- Embedded Credit  
See page 20 for description.
- Work-Based Learning Opportunities  
Missouri students have an opportunity to learn all aspects of the industry through several work-based learning opportunities. These include:

*Cooperative Career Education* – Cooperative Career Education is a method of instruction which coordinates academic instruction, related career education instruction, and supervised occupational experience. These experiences are based on a formal agreement between the cooperating parties, an individualized training plan, and are under the supervision of the teacher-coordinator who is responsible for overseeing the operation of the program.

*Supervised Agricultural Experience Program* – Supervised Agricultural Experience Program (SAEP), the experiential learning component of the secondary Agricultural Education program, is designed to provide opportunities for students to experience the diversity of the agriculture, food, fiber and natural resources sectors. Supervised Agricultural Experience Programs consist of all practical agriculture activities of educational value conducted by students outside of class and laboratory instructional time or on school-released time for which systematic instruction and supervision are provided by teacher, parents, employers, and others.

*Supervised Business Experience* – The Supervised Business Experience (SBE) program is a work-place learning experience, which is an extension of the business education classroom. SBE training is designed for students enrolled in approved career education business education programs such as Business Technology, Accounting II, and Network Administration. The SBE program provides on-the-job work experience that gives students the opportunity to master academic and workplace skills. Students can make the connection with real world expectations in terms of accuracy of work, production, staying on task, responsibility for work—all components which are stressed in the classroom setting. The work experience reinforces the importance of interpersonal skills, which gives students a forum to develop positive workplace experiences as they enter the workforce or prepare for continued education. The SBE program facilitates the transition from the classroom to the workplace.

*Supervised Marketing Internship* – The Supervised Marketing Internship component provides opportunities for students to experience work-place learning while receiving classroom instruction in the marketing content area. Those who elect to participate in this optional internship must be employed in a marketing job so they can apply the principles learned through the program. It provides excellent insight into the requirements of the marketing career path.

**8. Describe how the eligible agency will provide local educational agencies, area career and technical education schools, and eligible institutions in the State with technical assistance. [Sec. 122(c)(15)]**

The Division of Career Education has three opportunities to evaluate and provide technical assistance to local educational agencies, including career education programs:

- Missouri School Improvement Program

The Missouri School Improvement Program (MSIP) has the responsibility of reviewing and accrediting the 524 school districts within a five-year review cycle. The process of accrediting school districts is mandated by State law.

Districts are reviewed on a five-year cycle using three sets of standards which are designed to promote excellence in all Missouri public schools. These standards are resource, process, and performance. The resource standards address the basic requirements that all districts must meet and are quantitative in nature. The process standards address the instructional and administrative processes used in schools. The performance standards include multiple measures of student performance and include academic achievement, reading achievement, ACT achievement, career preparation, and educational persistence.

The final component of the MSIP process is the CSIP

([http://www.dese.mo.gov/divimprove/sia/msip/CSIP\\_Manual.pdf](http://www.dese.mo.gov/divimprove/sia/msip/CSIP_Manual.pdf)). The written CSIP directs the overall improvement of a district's educational programs and services.

As part of the MSIP process, the Division of Career Education requires all career education programs to complete the *Self-Monitoring Report for Career Education* [http://dese.mo.gov/divcareered/MSIP/MSIP\\_Revised\\_Short\\_Report\\_9-07.doc](http://dese.mo.gov/divcareered/MSIP/MSIP_Revised_Short_Report_9-07.doc). The *Self-Monitoring Report for Career Education* serves as a tool for school districts to use for program improvement and planning. Aligned with the *Common Standards for Career Education Programs*, the report is used to review local career education programs to determine where standards are being met and where improvements should be made. Findings from the report are used in the district's CSIP for career education program improvement.

- Perkins Technical Assistance Reviews

Each fiscal year, the Division of Career Education conducts Perkins Technical Assistance Visits (TAVs). The TAVs are completed for secondary, postsecondary, and Tech Prep programs. The primary purpose of the TAVs is to assess the eligible recipient's compliance with the provisions of the Perkins Act and to offer assistance in all areas of program administration. This is accomplished by reviewing the eligible recipient's financial and accountability records to ensure that the eligible recipients are spending Perkins dollars in an appropriate manner and have an accountability system in place to gather data as it relates to the Perkins core indicators of performance.

Prior to the TAV, the Division sends a letter to the eligible recipient informing them of the date of the visit, the Division staff attending the visit, and a general overview of the visit. The letter also references the *Required Documentation Sheet*. This sheet indicates the required documentation for the TAV. The eligible recipient is to use this document as a guide for preparing for the TAV.

Two areas of documentation are reviewed during the TAV:

- **Accountability Review**

The intent is to verify that the Perkins data being reported to the Division of Career Education is consistent with the definitions for participants, concentrators, and completers.

Nontraditional participation/completion data is reviewed to determine if the students reported are consistent with the nontraditional programs identified by the Division of Career Education.

The eligible recipients are to describe the process used to gather placement data. Students that were not positively placed are to be reported as status unknown, not employed, or not available.

- **Financial Review**

A finance worksheet is utilized to document the review. This worksheet is divided into the following categories: records management, allowable costs, time and effort reporting, equipment, and miscellaneous. In addition, a finance interview questionnaire is completed with the eligible recipient.

The following documentation is reviewed for the prior two years and the current year:

- accounting records (financial reports, ledgers, accounts, etc.);
- requisitions, purchase orders, invoices, etc.;
- monthly time sheets;
- semi-annual time certifications;
- job descriptions;
- inventory records; and
- any additional financial information supporting the Perkins grant.

At the conclusion of the TAV, an exit conference is conducted with the eligible recipient. During the exit conference, Division staff provides an overview of the visit which consists of the areas that were reviewed and any concerns and/or best practices that were noted.

After returning to the Department, the Division staff compiles the information gathered from the TAV and prepares a final report of the review. The final report is comprised of two sections, accountability and financial. In each section of the report, any findings and necessary corrective actions are identified. The final report is then sent to the eligible recipient with a cover letter. The letter thanks the eligible recipient for their courtesy, restates the purpose of the visit, and references the final report.

To document the TAV for the Perkins grant, the Division of Career Education maintains a central file to keep documentation from the review.

Division staff includes the following documentation in the file for each TAV:

- correspondence with the eligible recipient regarding the TAV;
- application, budget, and final expenditure report for the year(s) of the TAV;
- accountability data for the year(s) of the TAV;
- finance worksheet;
- interview questions and responses (accountability and finance);
- notes from TAV;
- copies of eligible recipient records that support any findings, if applicable;
- final report; and
- corrective action plan, if applicable.

If any findings and corrective actions are noted in the Perkins final report, the eligible recipient is required to submit, in writing, a corrective action plan (CAP) that addresses these issues. Therefore, within 45 business days of receipt of the Perkins final report, the eligible recipient must submit a detailed CAP, with timelines and persons involved, indicating the steps to be taken to address the findings and recommendations.

Division staff then reviews the CAP to ensure that the plan is sufficient and that all the findings have been adequately addressed. If acceptable, staff will include the CAP in the central file along with the other documentation for the eligible recipient. If not acceptable, Division staff will contact the eligible recipient for additional information and/or documentation.

Once the anticipated completion date for corrective action has occurred, Division staff will contact the eligible recipient to ensure that the corrective action has been implemented. This follow-up will be handled via a phone call or an e-mail. To verify that the CAP has been completed, the eligible recipient may be required to submit additional documentation to the Division. This documentation would be included in the central file with the other monitoring documentation. If additional documentation is not required, staff will document the follow-up with the eligible recipient and include it in the central file. In addition, during the eligible recipient's next Perkins TAV, the Division will review the findings with the eligible recipient and ensure the necessary corrective action has been properly implemented.

- *High Schools That Work and Technology Centers That Work* Technical Assistance Visits  
Missouri is among 32 states that participate in the *High Schools That Work (HSTW)* network which also includes *Technology Centers That Work (TCTW)*, a version of *HSTW* which has been tailored for shared time with career and technical education centers. *HSTW* is an effort-based school improvement initiative founded on the conviction that most students can master rigorous academic and career/technical studies if school leaders and teachers create an environment that motivates students to make the effort to succeed. Currently, Missouri has 37 high schools and six area career centers that are participating in *HSTW or TCTW*.

As part of the *HSTW/TCTW* process, districts that are part of the network must undergo a TAV sometime during their first two full years of operation. The TAV is conducted by a team of

professional educators, including Division staff, who are knowledgeable of the *HSTW* primary goals, key practices, and key conditions. The *HSTW* or *TCTW* TAV determines the extent to which the school is currently implementing key, research-based practices, and has certain key conditions in place supporting improved student achievement.

Other less formal technical assistance activities include onsite visits by program staff at the request of an individual school district or teacher. Division staff provides updates at professional teacher association meetings, conferences, and regional program area meetings. There are also discussion lists on Division-sponsored listservs.

In addition, MCCE will continue to provide professional development and technical assistance around programs of study, embedded credit, R-Factor Learning, Career Clusters, and nontraditional CTE program participation and completion.

**9. Describe how career and technical education in Missouri relates to the State's and region's occupational opportunities. [Sec. 122(c)(16)]**

Missouri Economic and Research Information Center

Missouri Economic and Research Information Center (MERIC) is the research division for the Missouri Department of Economic Development. The agency provides innovative analyses and assistance to policymakers and the public, including studies of the state's targeted industries and economic development initiatives. Other MERIC research includes Economic Condition Reports, Economic Impact Assessments, and Labor Market Information produced in cooperation with the U.S. Department of Labor.

Missouri educators and students have access to a wide range of data on economic development and workforce trends through MERIC's comprehensive Web site at [http://www.missourieconomy.org/customer/edu\\_stu.stm](http://www.missourieconomy.org/customer/edu_stu.stm).

Missouri Connections

*Missouri Connections.org* currently is an educational and career planning information system for students in grades 6 through 14. It is sponsored and guided by the Department of Elementary and Secondary Education in collaboration with several partners interested in helping students make meaningful connections with education, career preparation, and employment demand, thereby helping Missouri better prepare its workforce to meet the needs of business and industry. Partners include the Department of Economic Development, the Division of Workforce Development, MERIC, the Department of Higher Education, and an advisory board. The Department and its partners are exploring the feasibility of expanding the system to serve adults, as well as business and industry, in the belief that career development is a life-long process, and that individuals who develop strong skills and positive attitudes toward life-career development are more likely to choose the education, training, and employment that meet their needs and the needs of the workplace.

Missouri Workforce Investment Board

The Commissioner for the Department of Elementary and Secondary Education is a member of the Governor-designated Missouri Workforce Investment Board (MoWIB). The MoWIB establishes the vision for how the State's workforce system can provide the skills needed in a 21<sup>st</sup> Century economy

that will improve the quality of life for Missourians. Other members of the board include representatives from higher education, community colleges, business and labor organizations. The MoWIB requires a 51 percent business composition.

**10. Describe the methods the eligible agency proposes for the joint planning and coordination of programs carried out under this legislation with other Federal education programs. [Sec. 122(c)(17)]**

electronic Planning and electronic Grants System (ePeGS)

The Department of Elementary and Secondary Education is in the process of developing a Department-wide grant application, ePeGS, which will include the Perkins grant. The purpose of this system is to create a seamless planning and e-grants process for school districts, other educational institutions, and the Department so there is a consistent application process to provide information for budgets and school improvement planning. The goals of the project include:

- a cross-divisional planning process that meets State and Federal requirements, and
- a consolidated grant application process that integrates with the planning process to ensure the budget supports the plan and integrates with the allocation and payment of funds.

Department Strategic Plan

The Department is required by the State Government Administrative Rules and Regulations to develop and submit a strategic plan which serves as the basis for budget requests before the Missouri General Assembly and Department program operation. The strategic plan (<http://dese.mo.gov/divadm/StrategicPlan.html>) lists the key outcomes, objectives, and key programs the Department will employ to maintain high achievement for all students. It serves as a focal point to coordinate federal and state educational programs under the auspices of the Department to achieve high academic standards.

Staff from all divisions is assigned to each of the five outcomes with a division assistant commissioner assigned as leadership liaisons to each outcome.

School Improvement Teams/Success Teams

The Division participates in a statewide effort known as Project Success. The vision of Project Success is to improve student performance by intensifying and customizing resources to address specifically identified needs.

Project Success Teams work cooperatively with local school districts to overcome difficulties meeting the MSIP performance standards and encourage long term systemic school improvement initiatives.

Missouri Integrated Model

Through the support of a State Personnel Development Grant (SPDG) funded by the U.S. Department of Education, Missouri is researching, developing and implementing an integrated, three-tiered model of student support. The Missouri Integrated Model (MIM) draws upon eleven common essential elements found in the literature on five existing three-tiered models. Those models are Positive Behavior Supports (PBS), Professional Learning Communities (PLC), Reading First (RF), Response to Intervention (RtI) and High Schools That Work (HSTW). The MIM will allow school districts to

seamlessly integrate all of the components of effective three-tiered models to address the academic and behavioral needs of students from preschool through high school resulting in positive educational outcomes for all students.

**11. Describe the procedures the eligible agency will develop to ensure coordination and non-duplication among programs listed in Sections 112(b)(8) and 121(c) of the Workforce Investment Act (Public Law 105-220) concerning the provision of services for postsecondary students and school dropouts. [Sec. 122(c)(20)]**

The programs identified in Section 112(b)(8) of the WIA are represented on the MoWIB. Coordination and communication regarding the identified programs occurs at MoWIB meetings. Discussions focus on coordination and non-duplication of services, as well as services for postsecondary students and school dropouts. Intra-agency efforts with programs under the Adult Education and Family Literacy Act and the Missouri Option Program focus on high school diploma attainment or equivalency which aid students in enrolling in postsecondary career and technical education programs.

Postsecondary career and technical education institutions are active partners in the state one-stop career center delivery system. Most institutions have a representative that serves on the local workforce investment board. Postsecondary institutions also participate in Memorandums of Understanding (MOUs) which describe the specific services provided by the postsecondary institution as a one-stop partner.

## **B. Other Department Requirements**

- 1. Provide a copy of the local applications or plans for secondary and postsecondary eligible recipients, which will meet the requirements in Section 134(b) of the Act.**

See Appendix B for a copy of the Secondary, Postsecondary, and Tech Prep Local Applications.

- 2. Describe the State’s governance structure for career and technical education, including the approximate number of eligible recipients at both secondary and postsecondary levels.**

The State Board of Education is the sole state agency responsible for the administration and supervision of career education programs authorized by the Carl D. Perkins Career and Technical Education Improvement Act of 2006, Public Law (P.L.) 109-270. The State Board of Education has statutory authority to cooperate with the U. S. Department of Education in the administration of the five-year state plan for Career Education in Missouri and will not delegate its responsibilities under this law to any other State agency.

According to the Missouri Constitution, “The supervision of instruction in the public schools shall be vested in a state board of education....” (Article IX, Section 2(a); 1945). This provision gives the State Board of Education general authority for public education, within limits set by the General Assembly. The State Board has the constitutional responsibility to establish policy, supervise instruction in the public schools, and adopt accreditation rules for the operation of Missouri schools (Section 161.092, Revised Statutes of Missouri [RSMo]). The State Board’s duties and responsibilities range from preschool through grade twelve, secondary career education, postsecondary career education, adult education, Veterans’ Education and Training, and Vocational Rehabilitation.

By law, the State Board serves as the state-level governing body for secondary career education programs provided by local school districts, as well as postsecondary career education programs offered by community colleges, a state technical college, and public four-year institutions that are supported, in part, by the State Plan for Career Education. The State Board is responsible for the coordination and development of policy with respect to the career education programs under P.L. 109-270 and for the development of the State Plan.

Within the Department of Elementary and Secondary Education, the Division of Career Education has a major responsibility for secondary, postsecondary, and adult career education in Missouri. Programs and services provided include assistance with program approval, effective practices, technical assistance, funding, and Career and Technical Student Organizations (CTSOs). Program content specialists are available in the following areas: Agricultural Education; Business, Marketing, and Cooperative Education; Family and Consumer Sciences Education; Health Sciences Education; Technology Education; and Trade and Industrial Education. Other multi-discipline issues addressed include articulation agreements between schools, cooperative education, entrepreneurship education, gender equity, the Missouri Comprehensive Guidance Program (MCGP), labor market information, program evaluation, regional planning, Tech Prep education, civil rights compliance reviews, and special populations.

The Division of Career Education program content specialists serve as state advisors for the secondary CTSOs, including DECA, FFA, FCCLA, FBLA, TSA, and SkillsUSA. The postsecondary CTSOs are Postsecondary Agriculture Students (PAS), Delta Epsilon Chi, Phi Beta Lambda, and SkillsUSA. The adult CTSO is Missouri Young Farmers/Young Farm Wives Association.

The Division of Career Education is organized into two units, Career Education unit and Adult Education and Employment Training. The Career Education unit has responsibility for the program content areas, as well as Guidance and Placement Services, Missouri Option Program, *High Schools That Work*, and Special Needs. The Adult Education and Employment Training unit has four sections which link career education with life-long learning experiences, employment-specific training and education opportunities, and other programs associated with the Workforce Investment Act of 1998.

The career education delivery system is Missouri's primary educational system for preparing the state's workforce. Career education programs provide individuals with the technical knowledge and skills needed to prepare for employment in current and emerging fields, to continue their education, or to be retrained for new business and industry practices. The scope of Missouri's career education delivery system includes career awareness and self-assessment of interests and skills at the junior and middle school level, occupational skill development at the secondary and postsecondary levels, and Customized Training for Missouri's business and industry.

The Missouri career education delivery system provides statewide local delivery of services through 12 community college service regions (which in some cases may include multiple community college campuses), 58 area career centers, one state technical college, seven four-year universities offering two-year associate degree programs, and 443 comprehensive high schools. In addition, the system includes two state agencies, the Department of Corrections and the Department of Social Services, Division of Youth Services.

The Missouri career education delivery system provides programs, services, and activities to serve individuals who:

- are in secondary schools,
- are in postsecondary career education programs,
- are adults in need of training or retraining,
- have disadvantaged and/or disabling conditions, or
- are members of other special populations.

In carrying out its responsibilities for the administration of the statewide career education delivery system, the State Board of Education, through its employees, has cooperative arrangements with other agencies of State government. The Division of Career Education cooperates in planning, maintaining, and appraising career education programs with other state agencies, such as the Departments of Higher Education, Economic Development, Social Services, Labor and Industrial Relations, and Corrections.

**3. Describe the role of postsecondary career and technical education in the one-stop career center delivery system established by Title I of WIA.**

The Assistant Commissioner for the Division of Career Education is a member of the Governor-designated MoWIB. The MoWIB establishes the vision for how the state's workforce system can provide the skills needed in a 21<sup>st</sup> Century economy that will improve the quality of life for Missourians. Other members of the board include representatives from higher education, community colleges, business and labor organizations.

Postsecondary career and technical education institutions are active partners in the state one-stop career center delivery system. Most institutions have a representative that serves on the local workforce investment board. They also meet regularly with all one-stop partners. All postsecondary institutions provide WIA-approved training for individuals referred to them through the one-stop system. Perkins postsecondary recipients are actively involved where the Department of Labor has funded Workforce Innovation in Regional Economic Development (WIRED) grants to transform regional economies and to prepare workers for high-skill, high-wage career opportunities. Postsecondary institutions will be involved in lifelong learning accounts (LILAs) as they become available in the state to meet the needs of employed workers and their contributing employers.