LIST OF APPENDICES

The Carl D. Perkins Career and Technical Education Improvement Act of 2006

History

In the spring of 2004, the House of Representatives began to hold hearings on the reauthorization of the Perkins Act, showing bi-partisan support for CTE. In June 2004, the House introduced the first piece of reauthorization legislation, H.R. 4496, the Vocational and Technical Education for the Future Act. When the House bill was introduced, it maintained many elements of current law and made some positive changes. However, there were four significant concerns with the bill as it was originally introduced, including the proposed combining of the Tech Prep and Basic State Grant funding streams, a cut in funding available for state and local administration, changes to the maintenance of effort provision, and language in the law continuing to refer to vocational education.

The Education and the Workforce Committee s Education Reform Subcommittee held its mark-up to amend and approve the bill on July 14, 2004, and at this time the maintenance of effort provision was restored to current law. On July 21, 2004, the Education and the Workforce Committee marked up and passed H.R. 4496, and in the version of the bill passed by the full committee, local administrative funds were restored to the currently allowed 5 percent. State level administrative funds remained cut to 2 percent.

The Senate also began its reauthorization action during the summer of 2004. After holding one hearing, on July 19, 2004, the Senate Health, Education, Labor, and Pensions (HELP) Committee introduced S. 2686, the Carl D. Perkins Career and Technical Education Improvement Act of 2004. The Senate bill made many of the same positive changes as the House bill. Unlike the House bill, however, the Senate bill maintained Tech Prep as a separate program, reserved 15 percent of the Basic Grant for state administration and state leadership, and updated the language throughout the law from vocational and technical to career and technical.

The Senate HELP Committee approved S. 2686 on September 22, 2004, by a unanimous vote. However, as Congress moved toward adjournment, efforts to reauthorize the Perkins Act came to a halt. The House and Senate were unable to schedule floor votes on their legislation before the 108th Congress came to a close.

Activity began again promptly when the 109th Congress convened in 2005. On January 26, 2005, House Education and the Workforce Committee leaders introduced H.R. 366, the Vocational and Technical Education for the Future Act. The Senate followed quickly with the introduction of S. 250, the Carl D. Perkins Career and Technical Education Improvement Act of 2005, on February 1, 2005. These bills were almost identical to the bills (H.R. 4496 and S. 2686) that had been moving through Congress the previous year.

Both bills were approved by their respective committees on March 9, 2005. The Senate bill went quickly to the floor the next day and was approved by the full Senate by a 99-0 vote on March 10, 2005. The House bill was approved by a 416-9 vote on May 4, 2005. After these floor votes, staff spent more than a year working to negotiate differences between the two bills before a formal conference committee was named.

This conference committee was finally appointed in July 2006, and approved a compromise bill on July 20, 2006. The final bill, the Carl D. Perkins Career and Technical Education Improvement Act of 2006, was then approved by the Senate by unanimous consent on July 26, 2006, and the House by a 399-1 vote on July 29, 2006. President Bush signed the bill on August 12, 2006 as Public Law 109 270.

Synopsis

The new Act would authorize the legislation through Fiscal Year 2012, for a total of six years instead of the current five. While the bulk of the law is very similar to the 1998 Perkins Act, there are some significant changes in content and focus. Several themes are evident throughout accountability for results and program improvement at all levels, increased coordination within the CTE system, stronger academic and technical integration, connections between secondary and postsecondary education, and links to business and industry.

The new Act also uses the term career and technical education instead of vocational education throughout, maintains the Tech Prep program as a separate federal funding stream within the legislation, and maintains state administrative funding at 5 percent of a state s allocation. These are huge victories for CTE and were ACTE s top three priorities for the Perkins reauthorization conference. Positive outcomes on these issues show the respect Congress has for CTE programs and advocates.

Accountability

While accountability was already a strong component of the 1998 Perkins Act, the 2006 Act adds a new section on local accountability that will require local programs to set specific performance targets on each performance indicator and be responsible for meeting these targets. Locals may choose to accept the state performance targets or work with the state to negotiate levels more applicable to their specific circumstances.

Sanctions for local programs and states have become more specific. If local programs or states fail to meet at least 90 percent of an agreed upon target, they will have to develop and implement an improvement plan. If no improvement is made, or the program fails to meet at least 90 percent of a performance level for 3 years in a row, then a portion of Perkins funding could be withheld. The new local requirements and sanction

specificity will require each program to think much more strategically about the use of Perkins funds, and to focus activities on efforts that help to meet performance targets.

Several changes were also made to the specific performance indicators that states and local programs will have to report on under the 2006 Perkins Act. At the secondary level, academic attainment will now have to be measured by the academic assessments a state has approved under No Child Left Behind (NCLB). Graduation rates will also have to be reported as defined in NCLB, and technical proficiency should include student achievement on technical assessments that are aligned with industry-recognized standards when possible.

At the postsecondary level, academic attainment will no longer have to be reported as a separate measure, but, like at the secondary level, technical skill proficiency should include student achievement on technical assessments that are aligned with industry-recognized standards when possible. Also at the postsecondary level, student placement in high-wage, high-skill or high-demand occupations or professions must be measured.

Coordination within the CTE Community

While the new law maintains the Tech Prep program as a separate Title within the law with its own federal funding stream, there are several changes made to Tech Prep and throughout the law to increase coordination between the different programs within CTE. States will have the flexibility to combine either all, or a portion, of their Tech Prep grant with funds received under the Basic State Grant. If a state chooses to utilize this option, the combined funds must be distributed to local programs using the same formula as is used for Basic State Grant funds, and must be used for the same activities as those funds.

If a state does not choose to combine Tech Prep funds with funds under the Basic State Grant, there are new accountability requirements that will be applied to Tech Prep consortia. In addition, there is a new requirement for a single state plan that covers Basic State Grant activities and Tech Prep activities, linking the two programs more closely together.

There is also additional coordination evident in increased integration of language related to occupational and employment information throughout the law. While Section 118 of the law maintains the Occupational and Employment Information program authorization with a few minor changes, additional references are included in areas such as state leadership funds. This language would allow states to use leadership funds to support occupational and employment information resources (since Congress has not funded the program since June 30, 2006), and links those resources to other information required in the law.

Academic and Technical Integration

This is another theme that has existed in prior Perkins laws, but continues to be expanded upon. With additional links to NCLB, the 2006 Perkins Act goes much further toward integrating the academic and CTE accountability systems at the secondary level.

One of the biggest concerns expressed in the hearings leading up to Perkins reauthorization was that academic integration was often not occurring with as much frequency as may be possible, and that there was often a divide between academic and CTE teachers when working toward this goal. To address this, the new law puts a specific emphasis on professional development that addresses the integration of academic and technical skills, and that involves academic and CTE teachers working together whenever possible.

Connections between Secondary and Postsecondary Education

Connections between secondary and postsecondary education are again addressed through the Tech Prep program, but they are also emphasized in a new Basic State Grant requirement. The new law requires the development and implementation of programs of study. These programs of study must:

- Incorporate secondary education and postsecondary education elements;
- Include academic and career and technical content in a coordinated, nonduplicative progression of courses; and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or bachelor s degree.

States must develop the programs of study in consultation with local programs, and each local recipient receiving funds under the Act will be required to offer the relevant courses of at least one. Tech Prep programs should use programs of study to the extent practicable. Programs of study are very similar to, and build on, positive initiatives already underway in CTE programs around the country, including Tech Prep, career pathways, career academies, and career clusters. In many states, the foundational elements of programs of study may already be in place.

Links to Business and Industry

A much stronger theme within the 2006 Perkins Act is increased coordination with business and industry. In fact, two new purposes of the law allude to this theme supporting partnerships among secondary schools, postsecondary institutions, baccalaureate degree granting institutions, area career and technical education schools, local workforce investment boards, business and industry, and intermediaries; and providing individuals with opportunities throughout their lifetimes to develop, in conjunction with other education and training programs, the knowledge and skills needed to keep the United States competitive.

Additional focus is also placed on high-demand occupations, in addition to those that are high skill and high wage. References to entrepreneurship, small business, and the involvement of workforce investment boards are also added. These changes emphasize the role that employment availability and local economies should play in CTE programs.

APPENDIX B
Promising Practices for Career and Technical Education

This appendix provides an overview of promising practices in career and technical education along with a brief description of the Montgomery County Public Schools requirements under the Carl D. Perkins Act for career and technical education programs.

The United States Department of Education's Office of Vocational and Adult Education (OVAE) reports that most high school students take at least one career and technical education (CTE) course, and one in four students take three or more courses in a single program area. CTE is a significant part of the school experience and should be addressed in any school reform effort. This chapter focuses on the promising practices of career and technical education.

Career and technical education has undergone significant transformation over recent years, moving from the traditional "vocational" education, or "education for work" has been replaced with the academically richer "education through work (Kazis 2005)." Because of this reformation, there is emerging research on the subject, but very few conclusions can be drawn generally about career and technical education.

Career and Technical Education Research Background. The general consensus across research today is that the traditional "vocational" education model does not work in today's school and workplace. Both students who go to college and those who go directly into a career need academic and technical skills, along with technological proficiency. In DATE, the Aspen Institute[1] compiled research on career and technical education policies and practices. A few broad conclusions emerged from existing studies on career-focused high school programs and schools (Kazis 2005):

- CTE appears to help less-motivated and more at-risk students stay in high school and graduate;
- CTE programs do not necessarily academically prepared a student for college-level work;
- Employers would prefer to hire students with college credentials over those with only high school; however, for those who do not continue to college, jobs found with the help of career-focused programs in high school have a significant labor market payoff, particularly for low-income students and those who are the most at-risk;
- Results are mixed on career and technical education's affect on academic goals;

[1] The Aspen Institute mission is twofold: to foster values-based leadership, encouraging individuals to reflect on the ideals and ideas that define a good society, and to provide a neutral and balanced venue for discussing and acting on critical issues. The website is at http://www.aspeninstitute.org/.

- The evidence is inconclusive on the affect of participation in work-based learning programs, particularly internships and extended workplace experiences, on academic performance;

- It is possible to upgrade the academic content and rigor of CTE programs without sacrificing the technical and occupation-related component of the curriculum;

- There is a link between taking a concentration of CTE courses and higher wages in the short to medium time frame;

- Well-designed career-focused programs can improve employment, earnings, non-academic skills, and career choices, particularly for at-risk and low-income youth.

Promising Practices in Career and Technical Education. Because career and technical education is undergoing a transformation from traditional "vocational" education to a more integrated academic and technical education, there is not a lot of research on best practices. However, there is some research that suggest promising practices within career and technical education. These practices are supported by evidence, but have not been studied rigorously.

In addition, there are numerous barriers to CTE research. The following are some specific issues that can be problematic to researching career and technical education (Brand):

- Identifying CTE students can be difficult because of the numerous ways participation in CTE classes can be characterized and defined;
- Making the connection between the technical classes and labor market participation is very challenging;
- Some CTE students take classes in several industry areas (such as pre-engineering and business) which makes it hard to identify the career major and subsequent links to college or career outcomes; and
- Another challenge in tracking student outcomes is that the external agents that provide industry certifications often do not report students' performance on industry tests to schools.

Most CTE researchers agree that the literature provides little evidence of performance results that can be generalized across all of CTE (Kazis). For this report, OLO identified numerous themes in career and technical education that researchers identify as promising practices. The remainder of this chapter provides an overview of promising practice themes in career and technical education and the alignment, if any, of the practice with MCPS Career and Technical Education Programs. For individual information on individual programs, please see the Association for Career and Technical Education's website at http://www.acteonline.org/default.aspx, which provides detailed research on promising practices and CTE state profiles.

Theme #1: Programs should integrate career and technical education with academic rigor and relevance.

Career and technology education research has one overarching theme: the knowledge and skills needed for students to succeed in college and careers are comparable. Effective CTE programs must proactively increase academic standards and combine technical and academic instruction into a comprehensive curriculum (Kazis).

An empirical study[2] completed by ACT provides evidence that whether planning to enter college or workforce training programs after graduation, high school students need to be educated to a comparable level of readiness in reading and mathematics. The results are also supported by common types of knowledge and skills students needed to be ready for college and workforce training programs, even though the skills are taught and measured in technical versus academic settings.

CTE programs are beginning to overhaul their curriculum to integrate academic content to the technical and career settings. CTE supplements and expands the teaching of academic content, provides the context for learning academic skills in technical classrooms, and demonstrates how theoretical knowledge can be applied in real-world work settings. For example, automotive-based classrooms not only teach the mechanics of how a car runs but also the physics behind combustible power generation, wind resistance and engine efficiency (Brand).

Theme #2: Students achieve more success in smaller learning communities.

The National Conference of State Legislatures has created a summary of research on smaller learning communities (http://www.ncsl.org/programs/employ/slc.htm). In general, research concludes that student achievement in small schools is at least equal, and possibly higher, in small schools in relation to larger schools. There are two collective research findings in most studies: about half of the studies show that students do no worse in small schools than in larger ones while the other half states that students in small schools do better on measures such as school grades, test scores, honor roll membership, subject-area achievement, and higher-order thinking skills assessments. In addition, research shows that:

- Smaller schools help to close the achievement gap;
- Student attitudes and behavior are more positive in smaller schools, in particular with minority students;
- Smaller schools result in high attendance and lower dropout rates; and
- Students in small high schools do as well or better than students from larger schools on college-related variables such as entrance examination scores, acceptance rates, attendance, grade point average and completion.

[2] Ready for College and Ready for Work: Same or Different? 2006

Researchers have identified some structures of smaller learning communities to have promising results:

- *Career Academies* are "schools-within-schools" organized around career themes. They integrate academic and technical instruction, provide work-based learning opportunities for students and prepare students for postsecondary education and employment. Additionally, local employer partnerships provide program planning guidance, mentors and work internships.
- *House plans* divide students in a large school into groups of several hundred within a "house." Students take some or all courses with their house members and from their house teachers.
- *Magnet Programs* are programs opened to an entire school district that focus on a particular subject or career. Programs can have competitive admission requirements or can be open to any interested student. Students in a magnet program stay together for their core classes and may take other courses with non-magnet students.

Theme #3: The curricula of the programs should be aligned with industry, government, and postsecondary standards.

Program standards serve as the basis for the curriculum structure and statewide assessments of learning. CTE programs should create connections and partnerships with are creating connections with and pathways to the local industry, postsecondary education institutions, and government entities. The Carl Perkins Act states that one of the ways the support the academic and career skills of students is to "support partnerships among secondary schools, postsecondary institutions, baccalaureate degree granting institutions, area career and technical education schools, local workforce investment boards, business and industry, and intermediaries."

Federal and State Standards. CTE standards should align with federal and state guidelines and mandates, not only for career and technical education but for academic content standards in such subjects as English and math. The largest source of funding, the Perkins Act has specific accountability program standards required in order to receive grants.

Industry Standards. Career and technical education should support a seamless transition to college and career and the curriculum should reflect necessary knowledge and skills students are expected to master to be successful in the career. These standards should align with current industry requirements in order to make the coursework relevant. As stated in the Perkins Act, one of the core performance indicators for Career and Technical Education is "the attainment of career and technical skill proficiencies, including student achievement on technical assessments, that are aligned with industry-recognized standards, if available and appropriate."

Postsecondary Standards. Many states use dual enrollment to provide high school students, including CTE students, the opportunity to take college-level classes and potentially ease the transition to college and careers. CTE should emphasize curriculum alignment and articulation with local community and four-year colleges. This can allow students to see the necessary and reciprocal relationship between their academic and career goals, while earning college credit. Dual credit can improved coherence between high school and college curricula, increase access to college, improve the quality of technical training for workers, and reduced college expenses. However, there is limited research verifying the impact of dual enrollment.

Theme #4: Programs should be aligned with industry growth and decline as well as reflect emerging job opportunities.

The labor market constantly changes and career and technical education must focus on those careers that are in demand. CTE programs must maintain traditional programs that are still in demand but also provide programs in emerging and expanding fields such as information technology, communications and marketing, and environmental management (National Center for Education Statistics 2000).

School programs that are up-to-date create a higher demand and interest for CTE students. Schools who want to foster career and technical education must create coursework that is valued by teachers, students and the local business community. The program must provide students with relevant skills and useful work experience. School CTE programs must respond quickly and proactively to where the economy is headed, which requires the elimination of obsolete and dated programs and encouraging programs in growing technical fields that can lead to good careers and that interest high school students (Kazis).

Theme #5: Programs should include links to the local business community and provide for student work experiences.

Career and technical education should allow students to connect to the local business community and the workplace.

Connection to Local Business. Program related employment can create personal ties to employers that pay off in better jobs during and after school. It can also help less academically successful and socially connected students have an advantage on employment and entry to competitive postsecondary technical programs (Kazis).

Work Experience. Career and technical education programs offer students the opportunity to see how theory is used and applied in very practical ways. Work-based learning helps students to acquire occupational knowledge and skills, engage in career planning and explore careers, learn all aspects of the industry, improve work-related personal and social competence, and increase motivation and academic achievement.

There is general support for work-based learning in career and technical education. Students' engagement and interest increase, and surveys state that students believe that work-based experiences were helpful to their college and career planning. However, results are mixed on its impact on academic learning and achievement. There is some support that work-based learning reinforced academic knowledge; yet poor placements have lead to "dismal, mis-educative experiences, while quality work-based learning can provide benefits above and beyond what students get even in excellent classrooms" (Lekes 2007).

Theme #6: Career and technical education teachers should have increased standards to meet career, technical as well as academic needs to improve the quality of CTE teaching.

Teachers are a vital part of the learning process. For potential CTE teachers, many schools of education prepare graduates for general education instruction and do not focus the preparation of CTE technical education programs. Therefore, new teachers have limited knowledge about CTE, career clusters, career pathways, and real-world application of technical skills. As a result of most colleges of education not having a focus on CTE instruction, there is a shortage of qualified CTE teachers. Many schools rely on industry experts to bring the needed technical knowledge and skills into the classroom (Brand).

For an effective career and technology programs, career and technology teachers should have industry credentials, along with the academic training and instructional support to allow them to provide effective instruction. Teachers should be taught to use CTE instruction and technical skills to supplement, enhance, and reinforce academic concepts. In addition, teachers should be provided with professional development on topics such as content knowledge; best practices; academic integration; and general teacher management practices (Brand).

Theme #7: There should be consistent assessment and greater accountability for career and technical programs.

In the effort to reform career and technical education, continuous improvement and greater accountability require rigorous research including targeted evaluations, technical skills assessments, and better tracking of employment and earnings outcomes.. According to the National Assessment of Vocational Education (NAVE) of the USDE, there is currently little consistency of CTE measurement across and within states. In addition, NAVE reports that standardized assessments used in most states ignore the wider range of knowledge and skills that are needed for success in college and careers (Brand).

Researchers believe that there is a need for more meaningful and consistent data for career and technical education. In addition, under the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV), the federal government set out new performance accountability requirements for states and local programs. Non-academic outcomes, including college matriculation and completion rates, skills attainment, completion of industry-recognized credentials, employment, and earnings, needs to be

collected and analyzed in a more consistent and transparent manner. There are, however, potential issues with increased data collection and accountability of CTE programs:

- There are very few assessments to measure technical skills and employability skills (Brand);

- Many CTE courses are assessed on academic standards, but the classes are not designed to teach reading, mathematics, and science skills (Brand); and

- The methods used to assess CTE are not reliable (Kazis). For example (1) most states measure outcomes using a direct-mail survey, which can skew results and (2) many states use tenth-grade assessments to measure CTE student progress on their academics, even though most courses are taken after tenth grade (Kazis).

With greater accountability and performance measures, school systems should be able to evaluate whether programs meet student and employer needs, provides valuable instruction and shows improvement. As a result, the school system has the option to eliminate the weakest programs, support the best, and encourage innovation and excellence. One example of improved accountability is the state of Maryland, where CTE schools are expected to regularly identify the weakest 20 percent of their programs and to articulate a plan for their improvement or a decision about their future (Kazis).

Theme #8: Programs should connect and engage students.

The National Research Council of the National Academies[3] states that "the fundamental challenge is to create a set of circumstances in which students take pleasure in learning and come to believe that the information and skills they are being asked to learn are important or meaningful for them and worth their efforts, and that they can reasonably expect to be able to learn the material." Researchers generally agree that career and technical education programs can engage students in the following ways:

Learning Style. Career and technical education provides a range of learning opportunities that serve different learning styles. CTE programs supplement traditional classroom experiences with more hands-on learning such as work experiences, speakers/seminars, and internships and allow for students to have numerous types of learning experiences (NAVE).

Relevance. For many students, CTE classes provide real world activities and technology that CTE classes more interesting and motivating than standard academic classes. The ability to see the practicality and relevance of what they are learning allows many students to focus and "learn by doing." This engagement may result in an increase in academic achievement as the students becomes more interested in school overall (Earning, Learning).

[3] Engaging Schools: Fostering High School Students' Motivation to Learn(2003)

Career Exploration. Career and technical education may assist students in exploring career options, clarifying career goals, and understanding what is needed to achieve those goals. A student may determine what their career goals are or, just as important, what those goals may not be (NAVE). A determined career focus can also give a student a sense of direction and motivation, which may lead to improved performance and a smaller chance of dropping out. In a study completed by NAVE, high school seniors describe CTE classes and related work experience as "very helpful" to them in clarifying their career goals.

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FY09 Courses Receiving
TECHNOLOGY EDUCATION CREDIT

	Cluster & Course Title	Course Code
	ARTS, HUMANITIES, MEDIA, AND COMMUNICATION	
	Communication Systems Technology A/B	5502/5503
	BUSINESS MANAGEMENT AND FINANCE	
	Software Applications by Design A/B	2903/2904
	HUMAN AND CONSUMER SERVICES, HOSPITALITY, AND TOURISM	
	Food Trends and Technology A/B	4843/4844
	INFORMATION TECHNOLOGIES	
	Computer Maintenance LAN Mgt. A/B	5615/5616
	Computer Maintenance LAN Mgt. A/B	5617/5618 DP
	Computer Maintenance Technology A/B	5611/5612
	Computer Maintenance Technology A/B	5613/5614 DP
	Computer Programming 1A/B	2989/2990
	Discovering Programming Concepts A/B	2964/2967
	Network Operations A/B	4117/4118 TP
	Software Applications by Design A/B	2903/2904
	ENGINEERING, SCIENTIFIC RESEARCH, AND MANUFACTURING TECHNOLOGIES	
*	Foundations of Technology A/B (FOT)	5161/5162
	Pre-Engineering A/B	5504/5505
	Technological Innovations A/B	5506/5507
*	Principles of Engineering A/B (POE)	5150/5151
*	Introduction to Engineering Design A/B (IED)	5152/5153

All courses listed above meet the Technology Education credit for students graduating in 2009, 2010, 2011.

* **Indicates courses that meet the Technology Education credit for students graduating in 2012.**

DP - Double Period / TP - Triple Period

FY08 Courses Receiving ADVANCED TECHNOLOGY EDUCATION CREDIT

Cluster & Course Title	Course Code
ARTS, HUMANITIES, MEDIA, AND COMMUNICATION	
Communication Systems Technology A/B	4208/4209
Printing, Graphics, and Electronic Media 2A/2B	5121/5122 TP
BUSINESS MANAGEMENT AND FINANCE	
Accounting A/B	4111/4112
Advanced Accounting A/B	4113/4114
CONSTRUCTION AND DEVELOPMENT	
Electricity (Construction) 2A/2B	5595/5596 TP
Heating Ventilation/Air Conditioning 2A/2B	5127/5128 TP
INFORMATION TECHNOLOGIES	
Database Programming A/B	4232/4233
Network Operations A/B	4202/4203 TP
Software Applications by Design, Advanced	2905/2906
Computer Programming 1A/B	4200/4201
Computer Programming 2A/B	2901/2902
Computer Programming 3A/B, AP Computer Science	2965/2966
Microcomputer Technologies A/B	4214/4215
Microcomputer Technologies A/B	4216/4217 DP
Network Engineering and Management A/B	4218/4219
Network Engineering and Management A/B	4220/4221 DP
Network Engineering and Management A/B Advanced	4230/4231
Web Site Development A/B	2991/2992
Advanced Web Tools and Digital Media A/B	2936/2937
SCIENTIFIC RESEARCH, ENGINEERING, AND MANUFACTURING TECHNOLOGIES	
Pre-Engineering A/B	4210/4211
Technological Innovations	4212/4213
Principles of Technology A/B	4222/4223
Design, Illustrating, Drafting Technology 2A/2B	5106/5107 TP
TRANSPORTATION, DISTRIBUTION, AND LOGISTICS	
Automotive Technology Dealership 2A/2B	5067/5068 TP
Automotive Technology 2A/2B	5049/5050 DP
Automotive Technology 2A/3B	5064/5065 DP

DP - Double Period / TP - Triple Period

Appendix E
Methodology for Categorizing Career Clusters by Work and College Readiness Emphasis

The Maryland State Department of Education (MSDE) developed ten career clusters based on the state s employment needs. Career clusters represent segments of the economy where industries and occupations share similar skill sets. MCPS, in turn, offers career pathway programs across 11 career clusters that align with MSDE s career cluster framework.

For this report OLO classified the MCPS Career Clusters[1] as emphasizing either:

- **Work Readiness** - by focusing on providing students technical skills that enable them to gain employment immediately after leaving high school;
- **College Readiness** by focusing on teaching student higher level technical and academic skills that prepare students for higher education in four-year institutions; or
- **Both Work and College Readiness** by providing students with skills and knowledge needed to pursue both postsecondary education and/or immediate employment.

The classification of MCPS career clusters work and college readiness is based on a review and analysis of the following sources:

1. Maryland Career Cluster Frameworks - CTE Pathway Programs (September 2006). This document describes by career cluster and pathway the value-added and certification components of a variety of CTE pathway programs. Programs whose sole value added was college credit were classified as college readiness programs, those that prepared students for certifications were typically classified as work readiness programs, and those offering both college credits and certifications were listed as both.[2]
2. Maryland Career Clusters, Maryland State Department of Education (November 2007). This document lists by cluster and pathway the types of positions available to students with an associate s degree or less, a bachelor s degree, and a graduate degree. Pathways that listed a number of job choices requiring an associates or less were categorized as work readiness pathways; those requiring a bachelors or higher for most positions were categorized as career readiness pathways.[3]
3. Maryland High School Career and Technical Education Programs of Study (September 2008). This document describes CTE programs by cluster and program descriptions. Programs with explicit credentialing options are typically classified as work or work and college readiness programs; those without available credentials are typically categorized as emphasizing college readiness.[4]

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[1] OLO did not include Cooperative Work Experience Career Cluster in this classification.
[2] This document is available on-line at http://www.marylandpublicschools.org/NR/rdonlyres/FBCED237-BC72-4CAF-8905-5809B6E26E55/10824/MSDEPathwayProgramsfinalSeptemberPat1.doc
[3] This document is available on-line at http://www.marylandpublicschools.org/NR/rdonlyres/F8A34712-B21E-4DC2-A186-9144565375F2/16366/CareerClustersLOWRES.pdf
[4] This document is available on-line at http://www.marylandpublicschools.org/NR/rdonlyres/E4BE30EF-C723-4A04-9D6E-DFDBEF67DE7F/18555/CTEBook101509.pdf

4. MCPS Data on Credentials by Clusters and Pathways. MCPS provided data that describes the number of various certifications available for students within each CTE program and career cluster. Clusters whose pathways offered more certification opportunities were generally classified as emphasizing work readiness; those without certification options were generally categorized as college readiness programs.

Table 1: Number of Career Pathways by Cluster with Possible Industry Certifications

Career Clusters	Number of Career Pathways with Certifications
Arts, Humanities, Media and Communication	0
Biosciences, Health Science, and Medicine	1
Business Management and Finance	4
Construction and Development	6
Education, Training and Child Studies	1
Engineering, Scientific Research and Manufacturing	0
Environmental, Agricultural and Natural Resources	0
Human and Consumer Services, Hospitality and Tourism	4
Information Technologies	4
Law, Government, and Public Safety	1
Transportation and Logistics	3

Based on this review, OLO categorized MCPS career clusters by work and college readiness emphasis as follows; Table 2 on the next page describes this classification by career pathway.

- The Construction, Human and Consumer Services, and Transportation clusters emphasize **work readiness**;
- The Biosciences, Business, and Engineering clusters emphasize **college readiness**; and
- The Arts, Education, Information Technology, and Law and Government clusters emphasize both **work and college readiness**.

Of note, the above classification does not mean that a career cluster or pathway solely emphasizes college or work readiness. In fact, with the Tech Prep program, all CTE programs and pathways include courses that articulate into CTE post secondary programs at institutions of higher education; many CTE programs also include courses that earn college credit.

Second, the classification above by cluster and Chapter III masks differences in work and college readiness emphasis evident among pathways within a cluster. For example, as noted in Table 2, the Architecture and Drafting Pathway emphasizes college readiness while the Construction and Development cluster is classified as emphasizing work readiness. Thus, a career cluster categorized as either having an emphasis on job readiness, college readiness, or both, does not imply that all career pathway programs in that cluster have the same emphasis.

Table 2: MCPS Career Clusters by College and Work Readiness Emphasis

Career Clusters and Pathways	College Readiness	Work Readiness	College & Work Readiness
Arts, Humanities, Media and Communication			✓
- Broadcast media	✓		
- Printing graphics and electronic media		✓	
Biosciences, Health Science, and Medicine	✓		
- Biosciences	✓		
- Academy of Health Professions and Biosciences	✓		
- Bio-medical sciences, Project Lead the Way	✓		
- Biotechnology	✓		
- Medical careers			✓
Business Management and Finance	✓		
- Academy of Finance	✓		
- Accounting			✓
- Business Administration and Management	✓		
- Marketing	✓		
Construction and Development		✓	
- Carpentry		✓	
- Construction Electricity		✓	
- Heating, Ventilation, and Air Conditioning		✓	
- Masonry		✓	
- Plumbing		✓	
- Principles of Architecture and CAD Technology	✓		
Education, Training and Child Studies			✓
- Academy for Teacher Education	✓		
- Early Child Development		✓	
Engineering, Scientific Research and Manufacturing Technologies	✓		
- Advanced Engineering (Project Lead the Way)	✓		
- Pre-engineering	✓		
Environmental, Agricultural and Natural Resources			✓
- Environmental Horticulture			✓
- Green Industry Management			✓
- Landscape Design			✓
Human and Consumer Services, Hospitality and Tourism		✓	
- Academy of Hospitality and Tourism		✓	
- Hospitality Management		✓	
- Professional Restaurant Management		✓	
- Cosmetology		✓	
- Manicuring/Nail Technology		✓	

Table 2: MCPS Career Clusters by College and Work Readiness Emphasis (Continued)

Career Clusters and Pathways	College Readiness	Work Readiness	College & Work Readiness
Information Technologies			✓
- Academy of Information Technology			✓
- Cisco Networking Academy			✓
- Network Operations (Foundations program)			✓
- Oracle Academy			✓
Law, Government, and Public Safety			✓
- Fire and Rescue Services/Emergency Medical Technician		✓	
- Justice, Law, and Society	✓		
Transportation, Distribution and Logistics		✓	
- Automotive Body Technology/Dealership Training		✓	
- Automotive Technology/Dealership Training		✓	
- Foundations of Automotive Technology		✓	

APPENDIX F
Number of Required and Available Courses in Career Pathway Programs

Career Pathway Program	Credits Required for Program Completion	Total Number of Credits Available in Pathway
Arts, Humanities, and Communication		
Broadcast Media	4	7
Printing, Graphics, and Electronic Media	4	6.5
Biosciences, Health Sciences, and Medicine		
Academy of Health Professions and Biosciences	4	6
Biomedical Sciences (Project Lead the Way)*	4	3
Biotechnology	4	5
Medical Careers	4	6.5
Business Management and Finance		
Academy of Finance (AOF)	4	5.5
Accounting*	4	3.5
Business Administrative and Management	4	9.5
Marketing*	4	3.5
Construction and Development		
Carpentry	4	10.5
Construction Electricity	4	6.5
Heating, Ventilation, and Air Conditioning	4	6.5
Masonry	4	6.5
Plumbing	4	6.5
Principles of Architecture and CAD Technology	4	6.5
Education, Training and Child Studies		
Early Child Development	4	10
Academy for Teacher Education	4	7
Engineering Technology		
Advanced Engineering (Project Lead the Way)	5	7
Pre-Engineering	4	4.5
Environmental Resources		
Environmental Horticulture	4	7.5
Green Industry Management	4	6.5
Landscape Design*	4	2.5
Human and Consumer Sciences		
Academy of Hospitality & Tourism	4	6
Cosmetology	9	9
Hospitality Management*	4	2.5
Manicuring/Nail Technology*	4	3.5
Professional Restaurant Management	4	6.5
Information Technology		
Academy of Information Technology (AOIT)	4	10.5
Cisco Networking Academy	4	14.5
Network Operations (Foundations)	4	7
Oracle Academy	4	4.5
Law, Government, and Public Safety		
Fire and Rescue Services/EMT	4	5
Justice, Law, & Society	4	7
Transportation		
Foundations of Automotive Technology*	4	3
Automotive Body Technology/Dealership Training	4	12.5
Automotive Technology/Dealership Training	4	13.5

*Students may complete pathway programs through internships, college pathway courses, advanced level coursework, or guided research.

Source: MCPS High School Bulletin, 2009-2010

APPENDIX G
List of Career Pathway Programs at Each MCPS High School, 2008-2009
Source: MCPS Instructional Technology and Partnerships Unit

	Edison HS Technology	Bethesda-Chevy Chase	Montgomery Blair	James Hubert Blake	Winston Churchill	Clarksburg	Damascus	Albert Einstein	Gaithersburg	Walter Johnson	John F. Kennedy	Col. Zadok Magruder	Richard Montgomery	Northwest	Northwood	Paint Branch	Poolesville	Quince Orchard	Rockville	Seneca Valley	Sherwood	Springbrook	Watkins Mill	Wheaton	Walt Whitman	Thomas S. Wootton
Arts, Humanities, Media, and Communications																										
Broadcast Media				x					x			x	x		x				x	x	x					
Printing, Graphics, and Electronic Media	x																									
Biosciences, Health Science, and Medicine																										
Academy of Health Professions and Biosciences			x								x					x				x						
Biomedical Sciences (PLTW)																								x		
Biotechnology	x													x						x				x		x
Medical Careers	x										x					x					x		x			
Business Management and Finance																										
Academy of Finance (AOF)								x	x			x		x		x							x			
Accounting			x	x			x	x	x	x		x	x	x		x			x	x	x	x	x		x	x
Business Administrative and Management			x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x
Marketing			x	x			x	x	x		x		x	x	x				x		x	x	x		x	x
Construction and Development (Foundations)																										
Carpentry	x						x																			
Construction Electricity	x																									
Heating, Ventilation, and Air Conditioning	x																									
Masonry	x																									
Plumbing	x																									
Principles of Architecture and CAD Technology	x																									
Education, Training and Child Studies																										
Academy for Teacher Education			x	x					x			x				x	x	x		x			x		x	x
Early Child Development		x	x	x		x	x		x	x	x	x		x		x		x	x	x	x	x	x	x	x	x
Engineering, Scientific Research, and Manufacturing Technologies																										
Advanced Engineering (PLTW)*												x				x	x		x				x	x	x	
Pre-Engineering		x	x	x	x	x	x			x	x			x	x			x		x	x	x				x
Environmental, Agricultural, and Natural Resources																										
Environmental Horticulture							x										x			x				x		
Green Industry Management							x		x			x							x				x			
Landscape Design						x			x											x			x	x		
Human and Consumer Services, Hospitality, and Tourism																										
Academy of Hospitality & Tourism	x																			x						
Cosmetology	x								x																	
Hospitality Management						x	x	x	x	x	x	x	x	x		x		x	x		x	x	x	x	x	x
Manicuring/Nail Technology	x								x																	
Professional Restaurant Management	x						x									x										
Academy of Hospitality & Tourism	x																			x						
Information Technologies																										
Academy of Information Technology (AOIT)							x		x										x		x		x		x	x
Cisco Networking Academy		x	x				x		x					x				x			x		x		x	x
Network Operations (Foundations)	x					x													x							
Oracle Academy									x															x		
Law, Government, Public Safety, and Administration																										
Justice, Law, & Society			x												x					x		x				
Transportation, Distribution and Logistics (Foundations)																										
Automotive Body Technology/Dealership Training	x								x																	
Automotive Technology/Dealership Training	x						x		x											x						
Foundations of Automotive Technology	x																									

Student Application
Thomas Edison High School of Technology

12501 Dalewood Drive, Silver Spring, MD 20906
For information contact the School Counseling Office: 301-929-2181 Fax: 301-929-2230
Website: http://www.montgomeryschoolsmd.org/schools/edison

Priority Application Deadline: February 13, 2009 for Fall 2009 Class Attendance

Student's Last Name		First Name				MI
Student's MCPS ID #		Date of Birth	Social Security Number			
Co-enrolled School			Current Grade	Counselor's Name		
Student's Home Phone		Student's Cell Phone	Student's E-Mail			
Street Address		Apt	City	MD	ZIP	

Mother/ Guardian's Name		Father/ Guardian's Name	
Mother's Home Phone		Father's Home Phone	
Mother's Cell Phone		Father's Cell Phone	
Mother's Work Phone		Father's Work Phone	
Mother's E-Mail		Father's E-Mail	

The following is a list of the current program offerings. Students selecting programs in ***italics*** may earn college credit through Montgomery College. *Most* programs can lead to Career Development Program completion and students may earn Student Service Learning (SSL) hours in *most* courses.

*** *Architecture & CAD Technology***
Automotive Body Repair Technology
*** *Automotive Technology***
***Biotechnology* - PM session only** *(Advanced level course)*
Carpentry
Cosmetology #
*** *Electricity (Construction)***
Foundations of Automotive Technologies
Foundations of Building & Construction Technologies
*** *Heating/Air Conditioning (HVAC)***
Hospitality and Tourism #
Interior Design (elective)
Masonry
***Medical Careers* - PM session only #**
(Additional MCPS application is required to enroll in Medical Careers.)
Nail Technology
+ *Network Operations*
Plumbing
*** *Printing, Graphics, & Electronic Media***
Professional Restaurant Management

#Note: Students applying for Cosmetology, Medical Careers, and/or Hospitality and Tourism must be willing to provide documentation required by employers, government internship sites, and/or the Maryland Board of Cosmetology that may include a social security number and/or proof of citizenship / green card. For more information, contact the School Counseling Office.

Some programs grant Advanced Technology credits. Those programs marked above with an asterisk("*****") grant Advanced Technology in the second year of two-year programs, and those marked with a plus sign "**+**" grant Advanced Technology in the first year of the program. See program descriptions for more detailed information.

Most Thomas Edison High School of Technology (TEHST) programs have specific criteria for acceptance, special clothing requirements, and/or a lab materials fee. Priority is given to students who have demonstrated regular attendance, satisfactory progress in high school and a strong interest in their chosen program.

Students who currently receive special education services or other accommodations under the Individuals with Disabilities Education Act (IDEA) or Section 504 of the Americans with Disabilities Act **must** include a copy of their plan so accommodations can be in place at the time of enrollment. **Is this applicable? ☐ Yes ☐ No If applicable, a copy of the IEP or 504 Plan for the student must be attached.**

PROGRAM SELECTION:

First Choice		Second Choice	

Application continues on reverse side.

Please send (1) a *COMPLETED*, signed application, (2) a copy of your current report card, and (3) a current transcript directly to Thomas Edison High School of Technology, School Counseling Office, 12501 Dalewood Drive, Silver Spring, MD 20906.

Student Application
Thomas Edison High School of Technology

12501 Dalewood Drive, Silver Spring, MD 20906
For information contact the School Counseling Office: 301-929-2181 Fax: 301-929-2230
Website: http://www.montgomeryschoolsmd.org/schools/edison

Priority Application Deadline: February 13, 2009 for Fall 2009 Class Attendance

Please print a paragraph below, *in your own handwriting*, which explains why you've chosen to apply for this specific program and how it relates to your career plans. You may attach an additional sheet of paper if more space is needed.

_____

_____

_____

_____

_____

_____

Student Signature _____ Parent/Guardian Signature _____ School Counselor Signature: _____

2009-2010 TEHST Course Fees

Course Fees may apply and will be available at a future date.

Please send (1) a *COMPLETED*, signed application, (2) a copy of your current report card, and (3) a current transcript directly to Thomas Edison High School of Technology, School Counseling Office, 12501 Dalewood Drive, Silver Spring, MD 20906.

STUDENT FEES FY 2009

Note: Do not send any money until you receive an acceptance letter. Request for alternative payment arrangements, including possible waiver of fees, may be made by completing an "Application for Alternative Fee Payment." Applications are available in the School Counseling Office at TEHST. Please be advised that student fees are non-refundable except in the case of an approved schedule change that occurs within 25 days of the start of class.

** Fee note: SkillsUSA is a national organization serving high school and college students enrolled in training programs in technical, skilled, and service occupations, including health occupations.

CLASS	*ITEM*	*AMOUNT*
Architecture & CAD Technology	Safety Glasses	$2.50
	Hard Hat	$13
	SkillsUSA (Year 1 & 2)	$15
Foundations of Automotive	Safety Glasses (Year 1)	$2.50
Technologies	Respirators (Year 1 & 2)	$17
	Coveralls (Year 1)	$48
	SkillsUSA (Year 1 & 2)	$15
Automotive Body Repair Technology	Safety Glasses (Year 1)	$2.50
	Respirators (Year 1 & 2)	$17
	Coveralls (Year 1)	$48
	SkillsUSA (Year 1 & 2)	$15
Automotive Technology	Safety Glasses (Year 1)	$2.50
	Coveralls (Year 1)	$48
	SkillsUSA (Year 1 & 2)	$15
BioTechnology	Badge, Uniform & Goggles (Year 1)	$30
	Uniform Fee (Year 2)	$15
	SkillsUSA (Year 1 & 2)	$15
Construction Technology	Safety Glasses (Year 1)	$2.50
	Hard Hats (Year 1)	$13
	NCCER-National Registry (Year 1 & 2)	$25
	NEC Code Book (Electricity) (Year 1)	$70
	SkillsUSA (Year 1 & 2)	$15
Cosmetology I	Kit & Uniform	$250
	Cosmetology Workbooks (2)	$60
	Cosmetology Textbook	$75
	SkillsUSA	$15
Cosmetology II & III	Manikins (3 each) (II & III)	$60
	Textbook (if needed)	$70
	Practice Manicure Hand (II & III)	$7
	SkillsUSA (II & III)	$15
Network Operations	A+ Certification Workbook &Materials Semester I (Year 1)	$124
	Network+ Certification Workbook & Materials Semester II (Year 1)	$54
	SkillsUSA (Year 1 & 2)	$15
Printing, Graphics & Electronic	Workbook (Year 1)	$13
Media	Workbook (Year 2)	$32
	Lab Fee (Year 1 & 2)	$30
	SkillsUSA (Year 1 & 2)	$15
Medical Careers	Uniform Cleaning & Lab Fee	$15
	Text & Workbooks	$90
	SkillsUSA	$15

Professional Restaurant Management	Chef Uniform	$42
	Food Prep Fee (Sem I) (Year 1 & 2)	$30
	Food Prep Fee (Sem II) (Year 1 & 2)	$30
	Food Safety Certification (Year 1)	$5.50
	SkillsUSA (Year 1 & 2)	$15
Academy of Hospitality & Tourism	Uniform (Year 1)	$60
	ServSafe Certification (Year 1)	$5.50
	SkillsUSA (Year 1 & 2)	$15
Nails	Kit, Uniform & Workbook	$285
	SkillsUSA	$15
Web Technology & Digital Media	SkillsUSA (Year 1 & 2)	$15

Identification & Assessment for Students in the Multidisciplinary Education and Training Support (METS) Program and Students in the Engaged in Pathways to Achievement (SEPA) Program

2008-2009

Introduction

This document explains the enrollment process for the **Multidisciplinary Education and Training Support (METS)** and **Students Engaged in Pathways to Achievement (SEPA)** programs.

Multidisciplinary Education and Training Support (METS) is a program designed for ESOL students in Grades 3–12 who have schooling gaps or have experienced interrupted or no previous formal education. Students enrolled in the METS program receive daily instruction in ESOL and basic skills and sheltered instruction in reading, math, and social studies. METS also provides support to help students adjust both academically and socially to the school environment.

Students Engaged in Pathways to Achievement (SEPA) is a career-based instructional program for high school METS students that focuses on helping students develop work-readiness, English language, and native language literacy skills. SEPA students enroll in career education programs (currently offered at Thomas Edison High School for Career and Technology Education) as well as English language development (ESOL) classes that provide a focus on exploring careers and preparing for the world of work, a Spanish literacy for native speakers course, and mathematics classes.

Initial Enrollment Process for METS and SEPA Programs

Identification for placement in the METS program is initiated when a student registers at the International Student Admissions Office (ISAO) for Montgomery County Public Schools. For students entering Grades 3–8, the ISAO will continue to use established procedures to refer students to the METS program. Students who enroll in METS at the high school level become candidates for the SEPA program when they meet the established criteria (see Identification Process for the SEPA Program, below).

For students entering Grades 9–12, the process described on the following page will be followed to refer students to METS upon registration at the International Student Admissions Office. Assessments and intake interviews take place at the ESOL office at Rocking Horse Road Center.

1. **For students 15 years or older**, ISAO will refer students when they meet the following criteria:

   - Student is eligible for ESOL services
   - Student has an educational gap of *one or more years*. An educational gap is defined as the difference between the last grade that the student completed and the student's age-appropriate grade.

   Students who have completed Grade 9 in their country of origin are not eligible for placement in METS. The ISAO will indicate when a student meets METS criteria by checking the METS Referrals box on the Intake and Referral Form for International Students.

2. A student who is new to MCPS, was born outside of the United States, *and* has been in the U.S. for two years or less may register directly in an MCPS high school. However, if the registrar or school-based staff member verifies that the student has missed one or more years of schooling, as indicated on MCPS Form 560-24, then the student will be referred to the International Student Admissions Office (ISAO) to assist with the enrollment process.

3. All high school age international students eligible for ESOL testing are referred to the ESOL Testing Center to take the **Language Assessment System (LAS)-Links.** This state-mandated test of English language proficiency is administered to determine eligibility for English for Speakers of Other Languages (ESOL) services. The assessment consists of four subtests: Listening, Speaking, Reading, and Writing.

4. All students age 15 or older who score low beginning (LB) or high beginning (HB) on LAS-Links will take the **FAST Math** assessment in their native language. This math assessment is available in 29 languages. Students who score *below Grade 5* are eligible for METS.

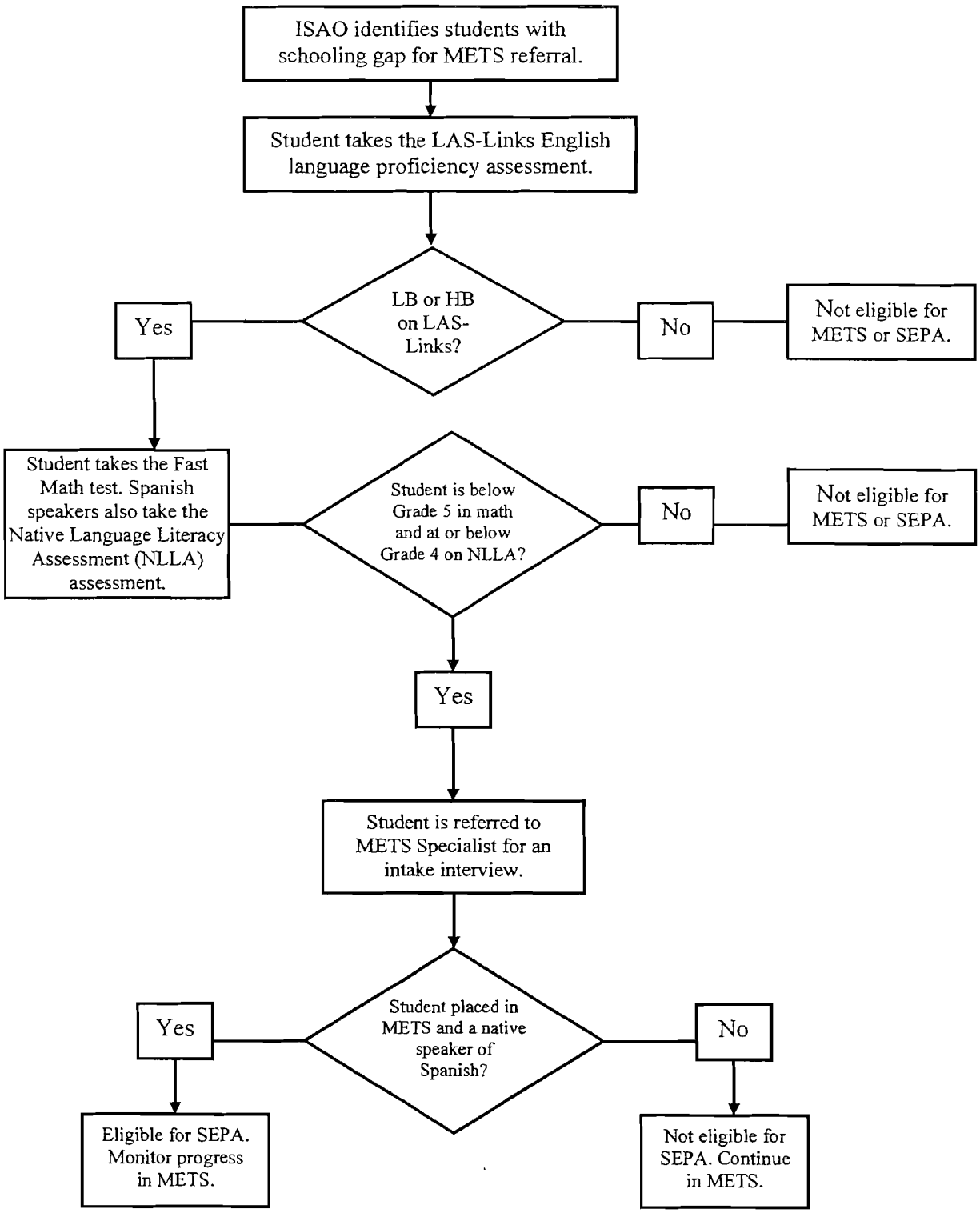
5. Spanish speaking students also take the **Native Language Literacy Assessment.** This assessment consists of two subtests: reading and writing. Students who score *at or below Grade 4* in reading comprehension are eligible for METS.

6. The ESOL Testing Center will deliver all METS pertinent data to the METS specialist. If eligible for METS, the family will complete the intake interview with the METS specialist.

7. Students who are placed in the METS program **and are native speakers of Spanish** are identified as possible candidates for the SEPA program. During the school year, these students are monitored and assessed to determine their eligibility for SEPA, as described on the following pages.

This process is illustrated on the diagram Initial Enrollment Process for METS and SEPA Programs on the next page.

Initial Enrollment Process for METS and SEPA Programs



Process for Referring Students to the SEPA Program

A high school ESOL student enrolled in a METS program who is a native speaker of Spanish and will be at least eighteen (18) years of age by June 30th of the following school year may be referred for possible placement in the SEPA Program.[1] Schools should follow the process for referring METS students to the SEPA Program outlined below:

1. In the spring, the METS/ESOL teacher or ESOL Resource Teacher initiates a SEPA Program Referral for students who meet the following eligibility criteria:
   - Student is a native speaker of Spanish
   - Student will be at least eighteen (18) years of age by June 30th of his or her first year in the SEPA program
   - The student has demonstrated limited academic progress (based on work samples and formative assessments)
   - Student demonstrates an overall beginning level of English language proficiency (LB to HB level on LAS-Links)
   - Student demonstrates reading skills below grade 3.0 in English
   - Student performs below grade 5 in mathematics
   - Student demonstrates limited reading comprehension skills in Spanish (as measured by the Brigance Reading Comprehension assessment)
   - Data indicates that the student is highly unlikely to meet MCPS graduation requirements by the age of 21.

   The SEPA Program Referral must be completed in consultation with a school-based counselor and reviewed by the student's ELL Team. *The SEPA Program Referral is included in this document.*

2. Once approved by the ELL Team, original copies of the Referral are sent to the SEPA Instructional Specialist at the ESOL Program Office with supporting data. Copies should be retained for the student's cumulative and ESOL folders.

3. Referrals are reviewed by the SEPA/METS team. The SEPA Instructional Specialist will contact the school with a list of approved SEPA candidates.

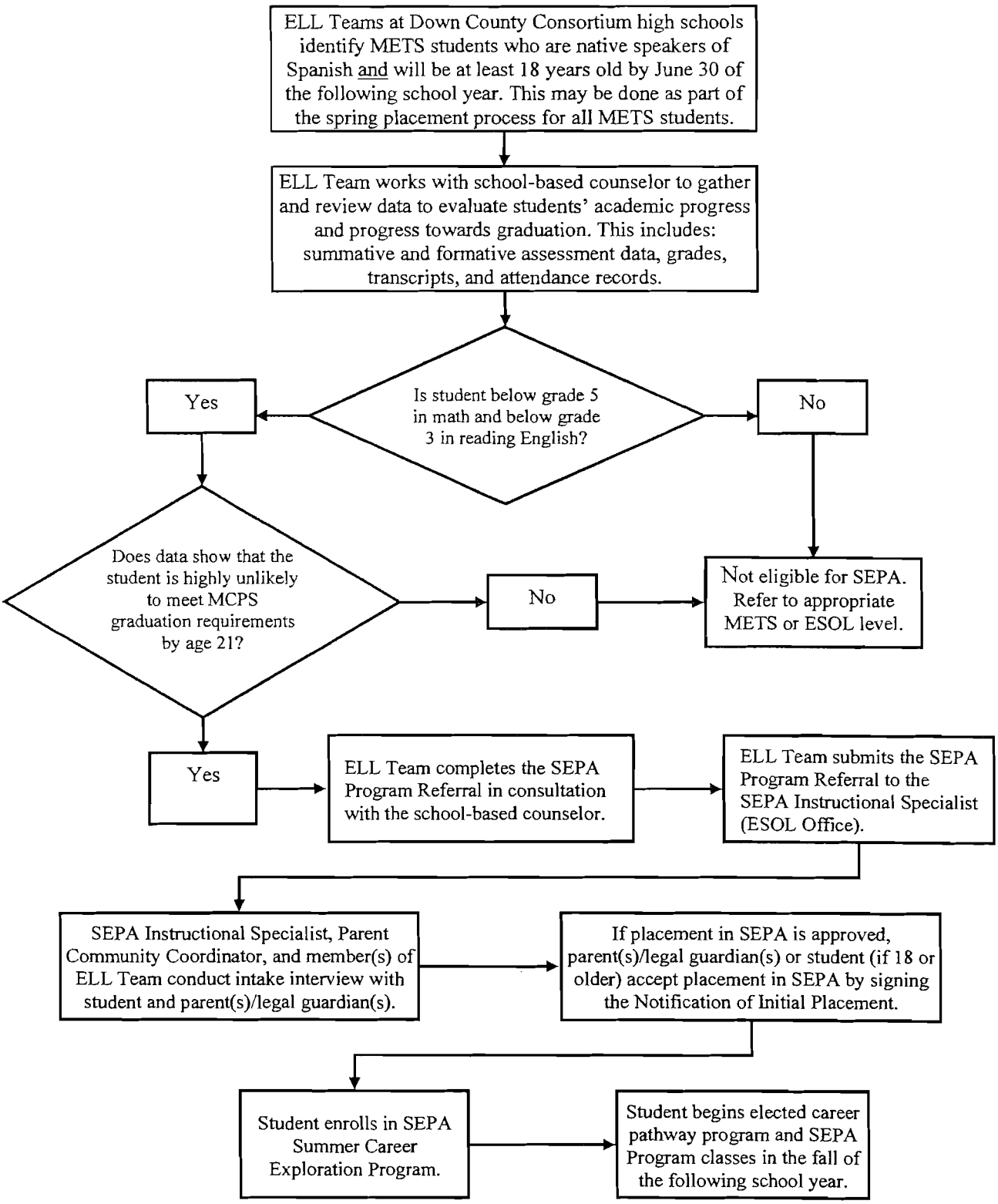
4. The SEPA Parent Community Coordinator, SEPA Instructional Specialist, and member(s) of ELL Team conduct a SEPA intake interview with each eligible student and his or parent(s)/legal guardian(s). At the interview, families are given information about the student's academic progress, graduation requirements, and the SEPA program. At the end of the interview, families decide if they will accept the student's placement in SEPA and sign the Notification of Initial Placement to indicate their decision.

5. Students accepted into the SEPA program enroll in the SEPA Summer Exploration Program. Students begin their elected career pathway program and SEPA program classes in the fall of the following school year.

The process is followed by staff at the student's home school in collaboration with the ESOL office. The Identification Process for the SEPA Program diagram on the next page illustrates the process.

[1]SEPA is currently available only to METS students who attend high school in the Down County Consortium (DCC).

Process for Referring Students to the SEPA Program



SEPA Program Referral 2008-09

Montgomery County Public Schools • Division of ESOL/Bilingual Programs

Directions

Complete the SEPA Program Referral for ESOL students who are eligible and may be recommended for placement in the Students Engaged in Pathways to Achievement (SEPA) Program. *Once the ELL Team has approved the referral in consultation with the school counselor*, send this document to the SEPA Instructional Specialist.

Part I: Identifying Information

Student's Name: First	Last (1)	Last (2)	Grade

Student ID#	MCPS Entry Date	Date of Birth	Age	Gender	Home Language

Home Address (Street address, city, zip code)	Telephone Number

Part II: Assessment Data. Include most recent data available. Attach additional information if necessary.

LAS Links English Language Proficiency Assessment Data (PL):	Speaking PL	Listening PL	Reading PL	Writing PL	Overall PL	Date of Assessment
Fast Math Assessment Data:	Score	Grade Level	Date of Assessment			
Reading Assessment Data: English	Score	Grade Level	Date of Assessment		Name of Assessment	
Reading Comprehension Assessment Data: Spanish	Score	Grade Level	Date of Assessment		Name of Assessment	

❒ Please attach a copy of student's transcript, recent grades/report card, and any other supporting data.

Part III: SEPA Eligibility Checklist. Please check (✓ or X) next to all that apply.

	Is the student a native speaker of Spanish?
	Will student be 18 years of age or older by June 30, 2009?
	Is the student reading below a Grade 3 level in English?
	Is the student's reading comprehension at or below a Grade 3 level in Spanish?
	Is the student performing below Grade 5 in math?
	Does data indicate the student is highly unlikely to meet MCPS graduation requirements by the age of 21?

Has the student expressed an interest in career education classes? Please list any specific career courses or fields the student has an interest in:

Part IV: Comments. Add or attach information that supports your recommendation to place the student in SEPA.

Name of Referring Teacher	Signature	School

Name of School-based Counselor	Signature	Date of Referral

DISTRIBUTION: 1) Student's Cumulative Record 2) ESOL Folder 3) SEPA Instructional Specialist

Montgomery County Public Schools
Division of English for Speakers of Other Languages/Bilingual Programs
Rocking Horse Road Center
4910 Macon Road, Room 115
Rockville, Maryland

Notification of Initial Placement in the Students Engaged in Pathways to Achievement Program

Thank you for attending this meeting about your child's eligibility to participate in the Students Engaged in Pathways to Achievement (SEPA) program. SEPA is an instructional program designed specifically for high school English for Speakers of Other Languages (ESOL) students who have interrupted or no formal schooling. The goal of SEPA is to provide students with opportunities to learn English, to develop native language literacy and communication skills, and to acquire entry-level job skills in a career field.

Your child is recommended for placement in SEPA based on the following criteria:

1) Age 18 or older before the end of the school year
2) Speaks Spanish but has limited skills in reading and writing Spanish
3) Has reading, mathematics, and basic academic skills several years below grade level compared to other high school students
4) By age 21, will be unable to meet Montgomery County Public Schools and Maryland State Department of Education graduation requirements due to large gaps in his or her formal education.

The SEPA program offers students ESOL classes that focus on teaching English for the purpose of exploring and preparing for jobs and careers. The program also provides classes in Spanish literacy development, mathematics, and career education. In addition to the regular school year program, students in the SEPA program take free summer school classes in English and career education.

Upon successful completion of the program, students receive a Certificate of Participation in their specific career education program that indicates the specific job skills acquired. Students also will complete a work portfolio that includes a resume, examples of their work, and letters of recommendation from their instructors.

In addition to the instructional program, SEPA offers participating students and their families a broad range of bilingual support, including counseling, parent outreach, and services resulting from partnerships with community organizations. The SEPA program can assist students in planning for post-high school work and other educational opportunities.

For more information regarding the program, please contact Ms. Deborah Becker, instructional specialist, SEPA Program, Division of ESOL/Bilingual Programs, at 301-230-0670.

Please complete the back of this page to indicate your placement decision. You will receive a copy of these pages for your records.

Notification of Initial Placement in the
Students Engaged in Pathways to Achievement Program

STUDENT INFORMATION:

Last Name	First	MI	Student ID

School	Grade

Please sign your name below to show that you have—

- received this notice;
- have had the opportunity to discuss the SEPA program with a MCPS staff member;
- understand that your child may not complete MCPS and Maryland high school graduation requirements; and
- **approve of your child's placement in the SEPA program.**

Parent/Legal Guardian (or student if 18 years of age or older)	Date

Please sign your name below to show that you have—

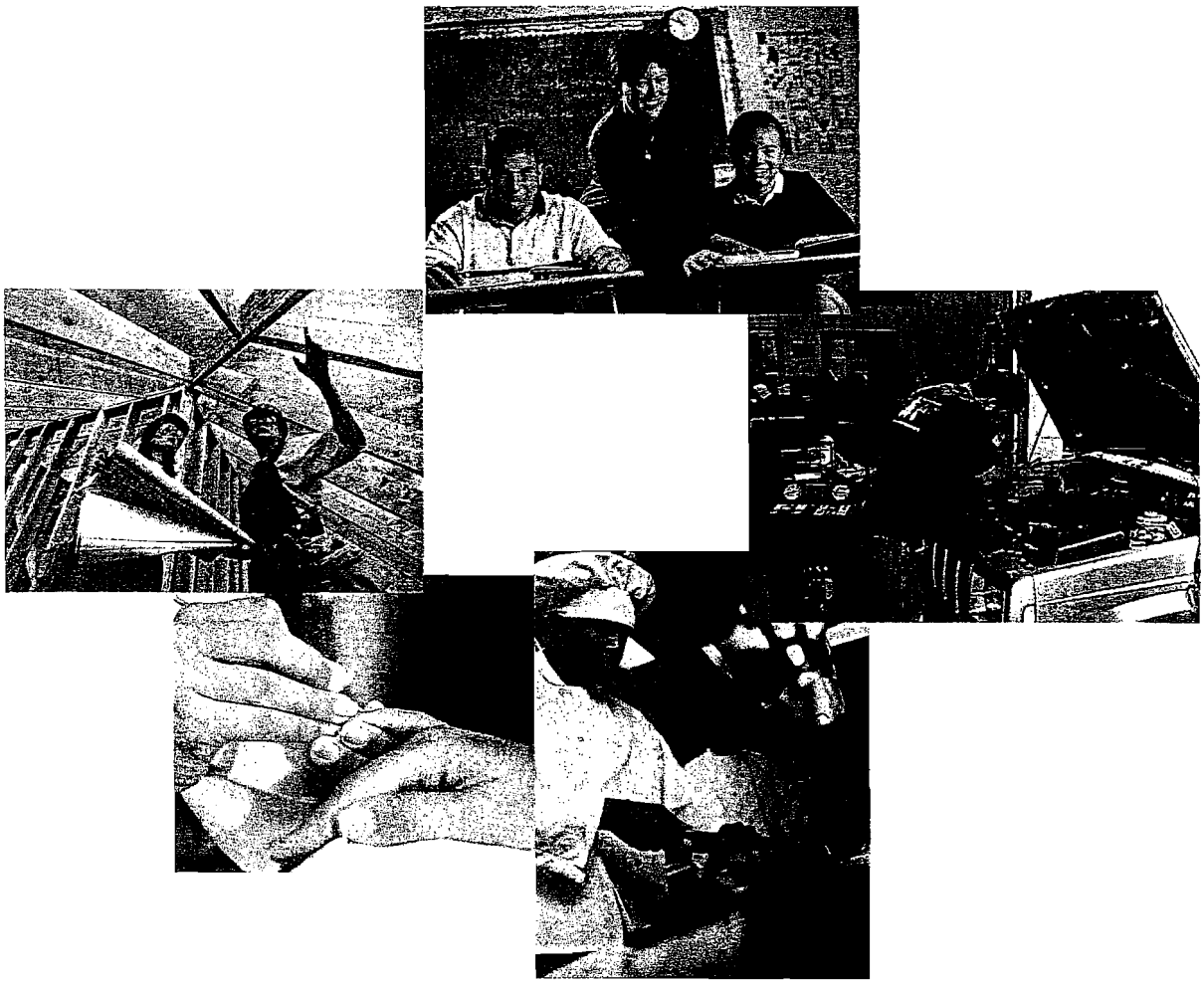
- received this notice;
- have had the opportunity to discuss the SEPA program with a MCPS staff member;
- understand that your child may not complete MCPS and Maryland high school graduation requirements; and
- **do not approve of your child's placement in the SEPA program.**

Parent/Legal Guardian (or student if 18 years of age or older)	Date

DISTRIBUTION: 1) Parent/Guardian 2) Student's Cumulative Record 3) SEPA Instructional Specialist

The SEPA Program: Options and Opportunities

Programa SEPA: Opciones y Oportunidades



Montgomery County Public Schools, Maryland

Montgomery County Public Schools Division of ESOL/Bilingual Programs
The SEPA Program: Options and Opportunities

Purpose

This document provides information on the **Students Engaged in Pathways to Achievement (SEPA)** program for Montgomery County Public Schools (MCPS) students and families.

What is SEPA?

SEPA is an acronym for the Students Engaged in Pathways to Achievement program. SEPA is a career-based instructional program for Spanish-speaking high school ESOL students who have experienced interrupted or limited formal education. To be eligible for the SEPA program, students must be at least eighteen (18) years of age by the end of the school year.

Due to significant gaps in their schooling, SEPA students begin high school with academic skills that are several years below their grade level. For this reason, SEPA students are not likely to meet Montgomery County Public Schools graduation requirements by age 21. The SEPA program provides an alternative instructional pathway that allows students to continue their education while preparing for the world of work in the United States.

SEPA students take specialized classes to develop career skills, learn English and math, and improve reading, writing, and academic skills. SEPA students also receive a wide range of support such as small class sizes, native language literacy development, summer programs, bilingual classroom support, bilingual counseling, and assistance with student fees required at the Thomas Edison High School of Technology.

In this document, you will find information about:

The SEPA Instructional Program

Year 1: 2008-2009 Courses for First Year SEPA Students

Summer Program 2008

In year one, SEPA students attend a free, four–week summer program at the Thomas Edison High School of Technology. Classes introduce students to four different career areas. At the end of the program, students choose the career program they wish to study during the school year.

Schedule

Monday – Friday, 8:15 a.m.–1:00 p.m. Breakfast and lunch are provided.

Classes

Week 1: Restaurant Management
Week 2: Automotive Technology
Week 3: Nail Technology
Week 4: Construction

2008-2009 School Year: Courses for First Year SEPA Students

SEPA students are enrolled in the following courses during their first year in the program.

ESOL (1-2 class periods)	In the SEPA ESOL course, students learn English through a career exploration curriculum. For example, students learn to: ▪ Describe their goals, interests, abilities, and experiences ▪ Research careers and jobs ▪ Communicate in English in school and at work Students will take a double period ESOL class if the schedule permits.
Spanish Literacy for Native Speakers	SEPA Spanish Literacy for Native Speakers class is for Spanish speakers who need to develop reading, writing, and vocabulary in their native language.[1]
Math	Students take an assigned math class at their home school.
Career Program (3 class periods)	Students enroll in one of the following career programs at the Thomas Edison High School of Technology*: ▪ Nail Technology ▪ Construction ▪ Restaurant Management ▪ Automotive Technology *Spaces may be limited in some classes. Transportation is provided between the students' home school and Thomas Edison High School.

[1] Research suggests that native language literacy helps students better develop and read English (Rivera, 1988).

Year 2: 2008-2009 Courses for Second Year SEPA Students

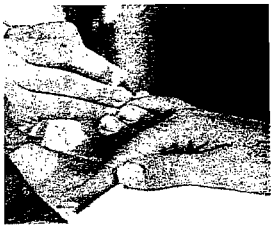
Summer Program 2008

After completing their first year in the SEPA program, students are able to apply for a summer work-based internship experience. The internship allows students to gain real work experience while working with a supervising adult professional. Most internships are part-time. Students may also enroll in Regional Summer School ESOL classes at Wheaton High School.

2008-2009 School Year: Courses for Second Year Students

SEPA students are enrolled in the following courses during their second year in the program.

CWE: Cooperative Work Experience	In the CWE course, students learn skills for researching, finding, and being successful in a job. For example, students learn: ▪ How to develop a plan to find a job ▪ How to prepare for and participate in a job interview ▪ How to communicate effectively with co-workers	
ESOL	In the SEPA ESOL course, SEPA students extend skills learned in the previous year as they continue to learn English for career development and practice language skills related to topics covered in their CWE class.	
Math	Students take an assigned math class at their home school.	
Career Program (3 class periods)	Students continue classes in a career program at Thomas Edison High School of Technology.	In the second semester, students may participate in an On-the-Job Training (OJT) experience as part of their career program.
Software Applications Management	In the Software Applications Management course, students learn basic use of computers, online resources, and computer programs, including Microsoft Word, PowerPoint, and Excel.	



SEPA Career Program Pathway: Nail Technology
2008- 2009

Guided Research in Nail Technology A/B

This is an alternative course for first year SEPA students who participate in the Nail Technology program. SEPA students are not eligible to take the Maryland State Board Nail Technician exam in their first year.

SEPA students may be graded on adjusted course outcomes.

↓

Nail Technology A/B

Nail Technology A/B prepares students for the Maryland State Board Nail Technician exam. A SEPA student may enroll in this course after successfully completing their first year if:

- The student has a recommendation by the teacher to enroll and
- The student has a valid Social Security Number

↓

On-the-Job Training (CWE OJT)

Students gain experience in a job setting. Positions are paid or unpaid. For paid positions, students must be eligible to work and provide appropriate documentation.

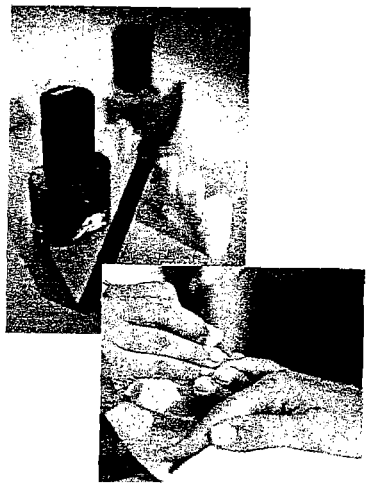
↓

Program Outcomes

- The student creates a professional portfolio with a resume and work samples.
- The student earns Certificate of Participation in the Nail Technology Program and a list of skills learned.
- The student gains Program Completer status if he or she earns 4.0 or more course credits in the career area.
- Licensed students are eligible to work as a Nail Technician.
- Non-licensed students are eligible to work as a Salon Receptionist/Cashier or Nail Technician Assistant.

Nail Technology

Topics and Skills Taught in the Program



- Basic manicure
- Pedicure
- Advanced nail technology
- Salon management
- Interpersonal skills
- Oral / written communication
- Related theory
- Bacteriology
- Sanitation
- Skin / nail diseases / disorders
- Anatomy and physiology
- Comprehensive instructional support
- Freehand nail design
- Airbrush nail design
- Acrylic nail technology
- Tips with acrylic and nail wraps
- Gel nail applications
- Electric filing
- Aromatherapy
- Memorize and use vocabulary related to the field, including anatomy and physiology words
- Fine motor skills needed for intricate applications of chemicals to the nails
- Ability to safely handle chemicals that could burn upon contact
- Social skills required for working with other students and communication with clients

SEPA Career Program Pathway: Professional Restaurant Management
2008- 2009

Restaurant Management 1A (semester 1)
Restaurant Management 1B (semester 2)

Students must pass the written **ServSafe Certification exam** in English or Spanish in Restaurant Management 1A.

SEPA students may be graded on adjusted course outcomes.

↓

Optional Course Repeater

To extend skills learned, SEPA students may repeat the Restaurant Management course in their second year, if space is available.

Second year course code: **5394/5395 RESRCH HOSP A/B**

↓

On-the-Job Training (CWE OJT)

Students gain experience in a job setting. Positions are paid or unpaid. For paid positions, students must be eligible to work and provide appropriate documentation.

↓

Program Outcomes

- The student earns National Restaurant Association Educational Foundation (NRAEF) ServSafe Certification for food training and safety.
- The student creates a professional portfolio with a resume.
- The student earns a Certificate of Participation in the Professional Restaurant Management Program with a list of skills learned.
- The student gains Program Completer status if he or she earns 4.0 or more course credits in the career area.
- The student may be ready for entry-level positions in the culinary arts field.

Professional Restaurant Management

Topics and Skills Taught in the Program

- Operate a small restaurant (Cafe Edison) bakery, snack bar, and catering service within a school facility
- Describe several job opportunities in the hospitality industry
- Use safety and sanitation principles, which are required for safe food handling
- Identify the principles involved in the prevention of food-borne illness
- Use and care of commercial food service equipment
- Display evidence of acquired self-development and work attitudes compatible to obtaining and maintaining a job
- Develop menus
- Develop fine motor skills necessary for measurement, use of kitchen equipment and cooking techniques
- Learn to work with others in kitchen production
- Use basic math skills including fractions needed to cut recipes

Examples of Job Opportunities Related to the Program

- Bussing
- Dishwashing
- Restaurant host or cashier
- Restaurant server
- Prep cook or line cook
- Catering assistant
- Baker's assistant/cake decorator
- Banquet set-up assistant

SEPA Career Program Pathway: Construction
2008- 2009

Foundations in Building and Construction Technologies
(1 semester: 1.5 credits)
Course may be repeated if necessary.

Student selects one specialization area:

Plumbing
(2 semesters)

Masonry
(2 semesters)

Carpentry
(2 semesters)

Course Continuation

Students continue or repeat coursework in the Construction program to extend learning.

On-the-Job Training (OJT)

Students gain experience in a job setting. For paid positions, students must be eligible to work and provide appropriate documentation.

Program Outcomes

A student who successfully completes course work and exams:

- Is entered on the National Center for Construction Education and Research (NCCER) registry. The registry lists the competencies and skills that the student has successfully demonstrated.
- Earns a Certificate of Participation in the Construction Program.
- Completes a professional resume.
- Receives a competency profile and list of employability skills learned in the program.
- Gains Program Completer status if he or she earns 4.0 or more course credits in the career area.
- May be prepared to work in one or more of the following areas: construction, building, and remodeling; home-improvement retail/sales; construction supplies merchandising; or military.

SEPA students may be graded on adjusted outcomes if recommended by the instructor and ELL team.

Construction

Topics and Skills Taught in the Program

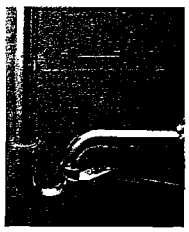
Foundations of Building and Construction Technology (Core Curriculum)

- Basic Safety
- Introduction to Construction Math
- Introduction to Hand Tools
- Introduction to Power Tools
- Basic rigging
- Basic Communication Skills
- Basic Employability Skills

Masonry

- Introduction to Masonry
- Masonry Tools and Equipment
- Measurements, Drawings, and Specifications
- Mortar
- Masonry Units and Installation Techniques

Plumbing



- Introduction to the Plumbing Profession
- Plumbing Safety
- Plumbing Tools
- Introduction to Plumbing Math
- Introduction to Plumbing Drawings
- Plastic Pipe and Fittings
- Cast-Iron Pipe and Fittings
- Carbon Steel Pipe and Fittings
- Corrugated Stainless Steel Tubing
- Fixtures and Faucets
- Introduction to Drain, Waste, and Vent (DWV) Systems
- Introduction to Waster Distribution Systems

Carpentry

- Orientation to the Trade
- Building Materials, Fasteners, and Adhesives
- Hand and Power Tools
- Reading Plans and Elevations
- Floor Systems
- Wall and Ceiling Framing
- Roof Framing
- Introduction to Concrete, Reinforcing Materials, and Forms
- Windows and Exterior Doors
- Basic Stair layout

SEPA Career Program Pathway: Automotive Technology
2008- 2009

Foundations of Automotive Technology

1 year, 3.0 credits
Students may repeat the course if necessary.

Course Continuation

Students continue or repeat coursework in the Transportation program to extend learning.

On-the-Job Training (OJT)

Students gain experience in a job setting. For paid positions, students must be eligible to work and provide appropriate documentation.

Program Outcomes

A student who successfully completes course work and exams:

- Earns a Certificate of Participation in the Transportation Program.
- Completes a professional resume.
- Receives a competency profile and list of employability skills learned in the program.
- Gains Program Completer status if he or she earns 4.0 or more course credits in the career area.
- Will be prepared to work in one or more of the following areas: porter, detailer, body repair apprentice, paint prep/polisher, apprentice painter, body repair technician, collision estimator, or parts clerk.

Students may be graded on adjusted outcomes if recommended by the ELL Team.

Foundations in Automotive Technology

Topics and Skills Taught in the Program

Students will learn how to:

- Properly use tools & equipment
- Lab/Shop Safety
- Detail vehicles
- Apply and sand body filler
- Repair body panels
- Replace body panels
- Prep and paint vehicles
- Perform preventative maintenance and service fluids

Students will also learn to:

- Put forth a positive attitude toward work and professionalism
- Function effectively in a working team of ideologically and culturally diverse persons
- Think logically, decisively and effectively solve problems pertaining to automotive repair
- Demonstrate competence in the use of tools related to automotive repair

Students should:

- Want to work on cars
- Have a positive work ethic
- Have standard work skills - report on time, turn work in completed, etc.
- Be able to follow multi-step directions
- Be willing to get dirty
- Be willing to do a lot of physical labor and stand on their feet for 2 or more hours
- Have good gross and fine motor skills to handle tools

Examples of Job Opportunities Related to the Program

- Parts clerk
- Porter
- Detailer
- Body repair apprentice
- Paint prep/polisher
- Apprentice painter
- Body repair technician
- Collision estimator

FAQs: Frequently Asked Questions

1. **Can I graduate from high school?**
2. **If I do not graduate, can I still get a high school diploma? Can I go to college?**
3. **What do I need to know and do in order to pass the GED?**
4. **How will the SEPA program help me plan for my future?**
5. **What are my options if I choose not to participate in SEPA?**

1. Can I graduate from high school?

MCPS students must meet the following four types of requirements in order to graduate and earn a diploma from MCPS:

- Course Credits: Students must earn a total of 22 total course credits. The MCPS document "Graduation Requirements for Secondary Schools" lists the specific courses that students must pass.
- Student Service Learning: Students must earn service-learning hours by participating in volunteer service. The number of hours that are required varies depending on when the student enrolls in MCPS.
- High School Assessment Exams (HSAs): The student must pass all state exams in Algebra, Government (NSL), Biology, and English 10. The exams are given in English.

Students may stay enrolled in an MCPS high school until they are 21 years old. They have until this time to meet graduation requirements.

For more information about graduation requirements, please see the document "Graduation Requirements for Secondary Schools," available in English, Spanish, and other languages.

2. **If I do not graduate, can I still get a high school diploma? Can I go to college?**

   Some students do not graduate from high school. They may obtain a Maryland high school diploma by passing the General Education Development (GED) Tests.

   If a student passes the GED Tests, he or she can earn a high school diploma. Individuals are able to take the GED Tests in Maryland when they meet all of the following criteria:

   - Are at least 16 years old.
   - Are not high school graduates and have been officially withdrawn from high school for 3 months or more.
   - Have been a Maryland resident for at least 3 months.
   - Have a Maryland Motor Vehicle Identification Card, License or Learners Permit or an active military ID.
   - Have a valid Social Security number or can show they applied for a Social Security number.
   - Have attained a minimal score in content areas related to writing skills, social studies, science, literature and the arts, and mathematics.

These criteria are set by the state of Maryland. *Criteria may be different for other states or in the District of Columbia.* Montgomery College and other adult education institutions offer GED preparation classes. The school Counselor and/or Parent Community Coordinator can assist students in finding more information about GED preparation classes.

If you do not have a high school diploma, you can take non-credit classes at Montgomery College if you meet requirements for admission.

3. **What do I need to know and be able to do in order to pass the GED?**

   - Proficiency in English. You may request to take the GED in Spanish. However, in addition to the tests in Spanish, examinees must also take the Language Arts/Writing Skills Test in English. The Writing Skills Test consists of both an essay and multiple-choice questions.
   - Reading skills. You should be able to read at a 9th grade level to pass the GED.
   - Writing skills. You need to write an essay.
   - Knowledge of math, science and social studies.

4. **How will the SEPA program help me plan for my future?**

The SEPA program helps students develop skills for life and work. In the SEPA program students will:

- Improve their ability to speak, understand, read, and write English.
- Improve their Spanish literacy and oral communication skills.
- Continue their studies in mathematics.
- Develop an understanding of how to find and be successful in a job in the U.S.
- Learn skills for a career field.
- Develop a professional portfolio that includes work samples, a Certificate of Participation in the program, a resume, and a list of competencies learned.
- Learn to set goals for work and education.
- Interact with English-speaking classmates.
- Interact with adult professionals in different career areas.

The SEPA program can also assist eligible students with learning about work-study internships/training and post-high school opportunities.

5. **What are my options if I choose not to participate in SEPA?**

- Students are referred to SEPA only when the program is highly recommended by the school's ELL Team and other ESOL staff members. If a student's parent or legal guardian chooses to declines this recommendation and decides not to enroll in the SEPA Program, the parent/legal guardian should contact the school's Parent Community Coordinator or the ESOL Resource Teacher.
- If the student is not in the SEPA program, he or she will stay enrolled at the assigned home school. The student will continue to take ESOL and other classes.
- If a student withdraws from the SEPA program, the student will be withdrawn from classes at Thomas Edison High School of Technology unless the student applies and is accepted for a position at the school. Admission to Thomas Edison High School is by application only. Students must apply through their school counseling office.
- Students that have been identified as eligible for SEPA should understand that they may not meet MCPS graduation requirements.

APPENDIX K
School Counseling Services Student Survey Results
Source: MCPS School Counseling Services

Middle School School Counseling Services Survey - 2006-2007 Composite

Counseling Activity	Strongly agree		Agree		Disagree		Strongly Disagree	
	#	%	#	%	#	%	#	%
Access to my counselor								
I talk with my school counselor (Freq - never)	308	7%	1201	26%	2284	50%	814	18%
When needed, I can meet with my counselor	1366	30%	2560	55%	485	10%	217	5%
If needed, I am willing to meet with my school counselor	1380	30%	2369	52%	558	12%	285	6%
Scheduling, academic advising, four year plan								
Y:N - I have met with my school counselor for scheduling/academic advising/4-year plan revision	3323 (Yes)	72%	1297 (No)	28%				
My counselor understood my concerns	1283	37%	1702	49%	358	10%	143	4%
My counselor helped me think about my concerns	1116	32%	1642	47%	497	14%	211	6%
My counselor helped me resolve my concerns	1040	30%	1627	47%	548	16%	242	7%
College/career counseling								
Y:N My conselor has introdced me to this topic	3033 (Yes)	71%	1249 (No)	29%				
	Career Day/Fair		Classroom Lesson		Career Speaker		Other	
How was this done?	907	19%	1790	38%	839	18%	1190	25%

High School School Counseling Services Survey - 2006-2007 Composite

Counseling Activity	Strongly agree		Agree		Disagree		Strongly Disagree	
	#	%	#	%	#	%	#	%
Access to my counselor								
I talk with my school counselor (Freq - never)	457	9%	1937	38%	1915	37%	826	16%
When needed, I can meet with my counselor	1793	35%	2721	53%	419	8%	161	3%
If needed, I am willing to meet with my school counselor	1929	38%	2697	53%	358	7%	146%	3%
Scheduling, cademic advising, four year plan								
Y:N I have met with my school counselor for scheduling/academic advising/4-year plan revision	3799 (Yes)	74%	1325 (No)	26%				
My counselor understood my concerns	1542	37%	2273	55%	249	6%	72	2%
My counselor helped me think about my concerns	1519	37%	2209	54%	325	8%	59	1%
My counselor helped me resolve my concerns	1355	33%	2280	55%	393	10%	85	2%
College/career counseling								
Y:N I have met with my school counselor for college/career counseling	2435 (Yes)	48%	2614 (No)	52%				
My counselor understood my concerns	1045	36%	1623	55%	222	8%	47	2%
My counselor helped me think about my concerns	1036	36%	1573	54%	245	8%	50	2%
My counselor helped me resolve my concerns	931	32%	1594	55%	298	10%	67	2%

Appendix L
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