

November 20, 2008

The Honorable Don McLeroy
State Board of Education

Dear Mr. Chairman:

In May 2007, the 80th Texas Legislature passed House Bill (H.B.) 3485 creating the CTE Review Panel. The Panel was charged with 1) reviewing and recommending revisions to the career and technical education (CTE) curriculum under Section 28.002(a)(2)(F); and 2) reviewing and recommending revisions for the program in which high schools and postsecondary institutions allow high school students to take advanced technical credit courses.

Pursuant to the law, the Panel is required to complete its review and to make recommendations to the State Board of Education (SBOE) not later than November 1, 2008 to increase the academic rigor of CTE curriculum and to improve and increase participation in advanced technical credit courses. It should be noted that the Panel's work has been conducted in coordination with and parallel to the CTE TEKS Writing Teams appointed by members of the SBOE. It has been the Panel's intent and practice to support the CTE Writing Teams work rather than compete with or duplicate efforts.

Because the TEKS review currently underway by the CTE Writing Teams will not be concluded until the spring of 2009, the Panel must defer recommendations related to Charge #1 until the Writing Teams submit their proposed revisions. In addition, it is the intent of the Panel to include recommendations of new or revised CTE courses that are rigorous enough to be considered by the SBOE for a fourth math or science course under the Recommended High School Plan. The Panel will continue to research Charge #2B, and report back to the SBOE when the Panel completes their recommendations regarding the advanced technical credit program.

The recommendations to follow are intended to fulfill the charges as mandated by H.B. 3485 related to Charge #2A to increase the academic rigor of the career and technical education curriculum. Accordingly, the CTE Review Panel proposes the attached recommendations to the SBOE.

In closing, we would like to express our appreciation for your thoughtful consideration. We are available to provide additional information or assistance to you in addressing these issues. Should you have any questions about this document, please do not hesitate to contact Robin Painovich, designated chair of the CTE Review Panel.

Sincerely,

Robin Painovich

cc: Members, State Board of Education
Members, CTE Review Panel

**Recommendations of the
Career and Technical Education
Review Panel**

November 20, 2008

Introduction

In May 2007, the 80th Texas Legislature created the Career and Technical Education Review Panel by passing House Bill (H.B.) 3485. Representative Susan King sponsored the original bill, which had several amendments before securing bipartisan approval from both the House and Senate.

CTE Review Panel Charge

H.B. 3485 charges the CTE Review Panel with the following responsibilities:

Not later than November 1, 2007, TEA shall establish a panel to:

- (1) review and recommend revisions to the career and technical education curriculum under Section 28.002(a) (2) (F); and
- (2) review and recommend revisions for the program in which high schools and articulated postsecondary institutions allow high school students to take advanced technical credit courses.

Not later than November 1, 2008, the panel shall:

- (1) complete the review as required by this section of:
 - (A) the career and technical education curriculum; and
 - (B) the program under which high schools and articulated postsecondary institutions allow high school students to take advanced technical courses; and
- (2) make recommendations to the SBOE as necessary to:
 - (A) increase the academic rigor of the career and technical education curriculum under Section 28.002(a) (2) (F); and
 - (B) improve and increase participation in the program under which high schools and articulated postsecondary institutions allow high school students to take advanced technical credit courses.

CTE Review Panel Recommendations

1. Rigor and Relevance

Key Considerations:

- CTE is rigorous when it develops students' capacity to improve and expand their thinking and reasoning skills, to make use of content information in rigorous ways, and to recognize real-world applications of these skills.¹
- Academics and CTE should not be mutually exclusive. The nation's top performing schools are characterized by the integration of academic and career and technical education.²
- When CTE courses incorporate more academic rigor, research shows student achievement increases significantly.³
- At the local level, curriculum, lesson planning and professional development should include academic, industry and CTE subject matter experts at secondary and postsecondary levels.
- At the local level, curricula, lesson planning and classroom instruction for CTE and academic courses should be infused with real world application and project-based instruction.
- At the local level, academic and career and technical teachers should participate in externships, job shadowing and experiential learning opportunities with employers and contribute new content to curriculum and classroom instruction.
- "The Math-in-CTE" study found that students who followed a CTE curriculum enhanced with mathematics outperformed their peers on math assessments, including college placement tests.⁴
- CTE courses should include academics that support mastery of industry standards and skills.
- Dropout rates are not likely to be reduced unless academic studies provide engaging, meaningful and relevant instruction.
- Students taking a sequence of CTE courses have higher graduation rates, lower drop out rates, and score higher on the TAKS exams in every category.⁵
- Rigorous programs of study integrating academic and technical skill attainment will attract students and prepare them for entry into college and careers.
- Today's knowledge-based, global economy requires all youth to acquire education after high school to be competitive, successful and earn an adequate income. 65-80% of all 21st century jobs require some postsecondary education including certifications, licensures, associate, baccalaureate and advanced degrees.⁶
- Industry recognized certifications and credentials acquired in high school through quality CTE programs provide greater opportunities for acquisition of postsecondary degrees debt free.
- Definitions of college readiness vary, but most concur that readiness is the attainment of the core knowledge and skills necessary to succeed in the first year of education after high school without the need for remedial/developmental education.⁷

1.1 Recommendation: The State Board of Education (SBOE) should establish a review process for all courses that allows for the integration of academics and career and technical content and support rigorous course design and alignment with postsecondary programs and the college readiness standards.

1.2 Recommendation: The SBOE should establish a provision for review of innovative courses every three years whereby courses are discontinued or are offered to satisfy graduation requirements.

1.3 Recommendation: The SBOE should establish a review process for all courses that includes vertical alignment and articulation of K-12 courses to higher education courses.

2. Review of CTE TEKS

Key Considerations:

- Secondary CTE courses must be aligned with postsecondary education and keep pace with rapidly changing needs of industry in order to successfully prepare students for postsecondary studies and the workforce.
- CTE courses span 16 career clusters, each with multiple pathways, requiring a number of industry representatives to adequately represent each pathway.
- The current ten-year review cycle for CTE courses is not adequate to keep pace with changes in technology and industry skill requirements.
- The current cycle does not allow for timely adoption of innovative courses developed for academic credit.
- The current cycle does not allow for timely realignment with postsecondary programs.
- The current cycle does not allow for adoption of up-to-date instructional materials.

2.1 Recommendation: The SBOE should convene an advisory panel comprised of secondary, postsecondary, agency and industry representatives to determine the need for accelerated review cycles for courses on an as-needed basis and report its finding to the SBOE by November 1, 2009.

2.2 Recommendation: The SBOE should select TEKS writing team members for both academic and CTE program areas that represent academics, CTE, business and industry and both secondary and postsecondary education.

2.3 Recommendation: The SBOE should add TEKS writing team members any time additional subject matter experts are needed, or to fill slots vacated by members unable to participate in the process. Active participation should be a requirement of writing team members.

2.5 Recommendation: The SBOE should review the process by which the state approves and procures instructional materials and make revisions as necessary to give districts timely access to electronic and online materials that reflect current technology and industry skill requirements.

2.6 Recommendation: The SBOE should encourage districts to use electronic or online instructional materials for CTE courses.

2.7 Recommendation: The SBOE should approve CTE courses that meet the following:

- 2.7.1 Support and reinforce career cluster knowledge and skills;
- 2.7.2 Support academic, technical and college readiness standards;
- 2.7.3 Support alignment with postsecondary;
- 2.7.4 Incorporate competencies leading to high skill, high wage, or high demand competencies in current or emerging career fields; and
- 2.7.5 Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree; and
- 2.7.6 Lead to technical skill attainment.

2. Review of CTE TEKS (continued)

2.8 Recommendation: The review and approval process for CTE courses should incorporate the following steps:

- 2.8.1 Incorporate career cluster knowledge and skills;
- 2.8.2 Consolidate courses as appropriate and eliminate or update courses with outdated content;
- 2.8.3 Identify courses that may be appropriate in the middle school;
- 2.8.4 Identify academic and technical prerequisites;
- 2.8.5 Update technical content to align with industry standards using up-to-date industry-based competency standards or certifications;
- 2.8.6 Ensure that each course meets the requirements of the Recommended High School Program or Distinguished Achievement Program;
- 2.8.7 Increase opportunities for dual and articulated credit courses
- 2.8.8 Embed college readiness standards;
- 2.8.9 Identify advanced courses to satisfy fourth year math or science requirements and/or develop new rigorous courses to satisfy fourth year math or science requirements, ensuring that courses contain substantially rigorous and relevant science or math content and college readiness standards;
- 2.8.10 Review innovative courses and recommend high quality, rigorous courses for approval to be offered statewide to fulfill graduation requirements; and
- 2.8.11 Develop or recommend new courses for emerging fields based on workforce and industry projections.

2.9 Recommendation: The SBOE should approve CTE courses that will satisfy the fourth year graduation requirements for math and science.

2.10 Recommendation: The SBOE should consider rigorous and relevant CTE courses to count for graduation requirements for fine arts, speech and economics.

3. Systemic Alignment of K-12 and Higher Education

The panel is charged with making recommendations to the SBOE to improve and increase participation in the program under which high schools and postsecondary institutions allow high school students to take advanced technical credit courses. The panel has identified a number of issues and is continuing the process of forming recommendations to address the portability, quality, awareness and faculty qualifications surrounding this program. Recommendations related to this item will be presented to the SBOE at a future meeting.

CTE Review Panel

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Endnotes

¹ *The Report of the Commission for a College Ready Texas* (2007),

<http://www.collegereadytexas.org/documents/index.html>

² Daggett, W. (2002) *The Future of Education*, The International Center for Leadership in Education,

<http://www.leadered.com/whitepapers.html>

³ *Retooling Career and Technical Education* (2007), National Governors Association Center for Best Practices, <http://www.nga.org/portal/site/nga/menuitem.9123e83a1f6786440ddcbeeb501010a0/?vgnnextoid=e75acaf65cb23110VgnVCM1000001a01010aRCRD&vgnnextchannel=4b18f074f0d9ff00VgnVCM1000001a01010aRCRD>

⁴ *Building Academic Skills in Context: Testing the Value of Enhanced Math Learning in CTE* (2006), National Research Center for Career and Technical Education, <http://cehd.umn.edu/NRCCTE/MathinCTESummary.html>

⁵ Texas Education Agency, <http://www.tea.state.tx.us/research/>

⁶ *Occupational Outlook Handbook* (2008), US Bureau of Labor and Statistics, <http://www.bls.gov/OCO/>

⁷ *The Report of the Commission for a College Ready Texas* (2007),

<http://www.collegereadytexas.org/documents/index.html>