



UNITED INDEPENDENT SCHOOL DISTRICT

AGENDA ACTION ITEM

TOPIC: Approval of Problems and Solutions as a New CTE Weighted Program Offering

SUBMITTED BY: Alicia G. Carrillo **OF:** CTE Director

APPROVED FOR TRANSMITTAL TO SCHOOL BOARD: _____

DATE ASSIGNED FOR BOARD CONSIDERATION: June 2, 2010

RECOMMENDATION:

Administration recommends that the Board approve Problems and Solutions as a new CTE weighted program offering.

RATIONALE:

Problems and Solutions is a project-based research course for students interested in researching real-world problems. This course will be offered as a follow-up course to Scientific Research and Design, to create a rigorous program of study that will encompass a full year of immersion in scientific inquiry.

Students will develop a project on a topic related to their interests, use scientific methods of investigation to conduct in-depth research, are matched with a mentor from the business or professional community, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge, skills, and technologies in a variety of settings. This course is designed to provide students an opportunity to earn one advanced measure for the Distinguished Achievement Program.

Because one of the objectives of this program is to develop scientific projects that are well thought out, planned, developed and competitive, Administration recommends that Problems and Solutions be added to the list of Board Approved weighted courses. Please see attached TEKS.

BUDGETARY INFORMATION

Course may be funded through the CTE program budget.

§127.15. Problems and Solutions (One-Half to One Credit).

(a) General requirements. This course is recommended for students in Grades 11-12.

(b) Introduction. Problems and Solutions is a project-based research course for students who have the ability to research a real-world problem. Students develop a project on a topic related to career interests, use scientific methods of investigation to conduct in-depth research, are matched with a mentor from the business or professional community, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge, skills, and technologies in a variety of settings. This course is designed to provide students an opportunity to earn one advanced measure for the Distinguished Achievement Program.

(c) Knowledge and skills.

1. The student applies mathematics, science, English language arts, and social studies in independent study. The student is expected to:
 - a. select an original independent study project for personal enrichment and professional development;
 - b. use reading and research skills to investigate self-selected topics and compile a research portfolio;
 - c. collaborate with an interdisciplinary team to develop a project;
 - d. identify community, state, national, or international issues to select a project;
 - e. conduct a project under the supervision of a mentor;
 - f. use scientific methods of investigation;
 - g. apply statistical concepts to analyze data, evaluate results, and draw conclusions;
2. Compare and contrast findings in a coherent and organized manner; and
 - a. present the independent research project to an appropriate audience of experts in the field using a variety of technologies.
3. The student uses verbal and nonverbal communication skills. The student is expected to:
 - a. listen actively and effectively in group discussions;
 - b. use a variety of resources to access, process, and collect data relevant to the project;
and
 - c. document the time and cost to accomplish the project goal.
4. The student demonstrates professional ethical behavior standards and legal responsibilities. The student is expected to:
 - a. analyze ethical challenges posed by factors such as cost containment, new and emerging technologies, and allocation of limited resources; and
 - b. review legal issues related to the research project.

Chapter 127 TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS)

5. The student designs and develops a research project related to their career interests. The student is expected to:
 - a. identify processes to be used in the independent research project; and
 - b. use resources to complete a project.

6. The student uses technology needed to complete a research project. The student is expected to:
 - a. use search engines, databases, and other digital electronic tools effectively to locate information;
 - b. evaluate quality, accuracy, completeness, reliability, and currency of information from any source;
 - c. prepare, organize, and present independent research, mentor experiences, and processes;
 - d. accept constructive criticism and revise personal views when valid evidence warrants; and
 - e. prepare and present scientific/technical information in appropriate formats to a panel of experts in the field of the research project.

7. The student evaluates the original research project. The student is expected to:
 - a. create weekly progress reports that address time management and goal setting;
 - b. meet periodically with the teacher for conferences about progress, concerns, successes, and needs;
 - c. conduct self-evaluations of speech presentations;
 - d. compose written reflections regarding strengths and weaknesses as well as areas of growth;
 - e. analyze the feedback from the panel of experts; and
 - f. submit project results and analysis to mentors and experts.