Criteria for Evaluating
Science-Technology-Engineering-Mathematics (STEM)
Career Cluster Programs © CMC of ASEE 2005

Topics	3 points	2 points	1 points	0 points
Vision and Goals	Offers a strategic plan that clearly defines the mission and measurable goals of the program.	A strategic plan is stated that defines the mission. Goals are listed but are not measurable.	States a general mission. No goals are provided.	Has no mission statement.
Comprehensive Contemporary Curriculum	Offers a fully developed, project/problem-based curricula which integrates national standards in science, mathematics, technology, and English language arts, and offers an in-depth study through a sequence of courses across E/ET disciplines.	Project/problem-based curriculum is present, but lacks national standards integration and connections with core concepts of a single course addressing limited E/ET disciplines.	Project-based or problem-based curriculum is presented haphazardly with no national standards integration and disjointed units of study with little evidence of connections with E/ET disciplines.	No evidence of project or problem- based curriculum, no national standards integration and no connections with E/ET disciplines.
Research-Based Instruction	Emphasizes teaching and learning applying essential teaching skills within a curriculum framework that focuses on key concepts.	Emphasis on self-directing, self-correcting student activities that focus on teaching software and/or hardware procedures	Over-emphasis on self-directing, self-correcting student activities that focus on teaching software and/or hardware procedures	Completely centered upon software and hardware capabilities.
Assessment	Assessment is authentic, based upon rigorous academic applications of knowledge and skills.	Assessment is at times authentic with some rigorous application of knowledge and skills required.	Assessment is based on recall and understanding of procedures involving equipment and/or software.	No assessment of acquired student knowledge and skills.
Real World Projects and Problems	Offers rigorous projects and problems aligned with the program curricula enabling students to develop strategies to solve problems that are integrated with real world	Occasionally offers rigorous projects and problems aligned with the program curriculum enabling students to develop strategies to solve problems.	Seldom offers projects and problems in the program curriculum.	No projects and problems in the program curriculum, relying solely on procedure-based activities.

Topics	3 points	2 points	1 points	0 points
	issues.			
Equity	Curricula is representative of the nation's full diversity and offers professional development that includes diversity training and a strategic goal to systematically promote and measure participation of women and underrepresented minorities.	Curriculum considers the importance of equity for women and underrepresented minorities and superficially addresses the issue in its professional development program.	Program refers to the importance of equity for women and underrepresented minorities in its activities and professional development.	Program does not address the importance equity for women and underrepresented minorities.
Improvement and Revision	Regularly updates curricula actively engaging Business /Industry, K-12 schools, and Higher Education in the process.	Intermittent updating of curriculum with the involvement of Business/ Industry, K-12 schools, and Higher Education.	Limited updating of program activities and limited involvement of Business/Industry, K-12 schools, and Higher Education.	No evidence of regular updating of program activities or the involvement of Business/ Industry, K-12 and Higher Education.
Standardized End-of-Course Examinations	Prepares and offers standardized end-of-course examinations twice a year for each course.	Provides an end-of-course examination for its course.	Offers tests measuring student recall and understanding on equipment and software procedures.	Offers no examinations or tests.
College Credit/recognition	Offers students an optional college credit acquisition program from ABET accredited colleges & universities.	Encourages students to apply to select colleges for college credit.	Directs students to mention program in college applications.	Offers no options or encouragement for college credit.
Teacher Professional Development	Offers a comprehensive program of professional development enabling continuous improvement in teacher knowledge and skills which includes: teacher pre-assessment, core training, graduate credit to teachers, and ongoing professional development.	Offers teacher training for its course with marginal pre/post support or graduate credit.	Offers manuals and teaching materials to teachers.	Offers no teacher training or support.

Topics	3 points	2 points	1 points	0 points
School Counselor Training and Support	Offers to school counselors a training program that provides knowledge of the E/ET career pathway and a counseling kit of materials to support parent and student career decision-making for E/ET.	Offers information to counselors and promotional materials for students and parents.	Offers promotional materials to parents and students.	Does not offer training or awareness materials for counselors.
Partnership Model	Requires/supports a School Partnership Team of members from Business/Industry/Higher Education for operational support for teachers and students.	Encourages the formation of a partnership model which involves members of the community.	Encourages the formation of a partnership model but does not specify membership.	Does not encourage or require the formation of a Partnership model.
State Support	Works collaboratively with each state to implement all aspects of the program aligned with the state's laws, policies and procedures.	Informally works with states to implement aspects of the program.	Works with schools without the proactive involvement of states.	Does not work with the state.
School Agreement	Has a school agreement that describes/lists the quality standards and practices required to implement and to sustain the program at a high level of quality.	Provides guidelines which list goals and/or practices.	Provides some direction in the listing of practices.	Sets no standards for program implementation.
School and Teacher Support	Has a professional staff with the necessary experience in teaching and learning, curriculum and assessment, knowledge of the unique culture of K-12 schools and manages a national database of participating schools, teachers, school counselors and students.	Has a staff that has worked with teachers in the development of the program and provides a list of participating schools.	Hires consultants to develop units of study.	Offers no school and teacher support.
Equipment to Support Program	Has an operational plan that supports schools with an optional bid of equipment, tools, and supplies needed to support the program's	Provides a list of equipment, tools, and supplies which are needed in the program and suggests sources for their	Provides a list of required equipment, tools, and supplies.	Does not list program needs.

Topics	3 points	2 points	1 points	0 points
	instruction.	acquisition.		
Program Evaluation	Offers a systematic program evaluation that measures the degree to which the mission and goals are achieved and which includes data on E/ET college attendance and retention, workforce placement, student achievement and demographics.	Provides an evaluation checklist for schools to use.	Encourages schools to evaluate their success of the program.	No evidence of a systematic evaluation program.
Leadership and Support	Has a Board of Directors (BOD) and National Advisory Board comprised of leaders from Business/Industry, Higher Education, and K-12 schools that direct the activities of the program to achieve its mission and goals.	Has an Advisory Committee which provides advice and review of published materials in the program.	Invites professionals in the field to review materials and offer suggestions for strengthening content.	No evidence that the program is overseen by stakeholders.
Sustainability	Has a business plan that ensures the program's continuance, with an operational plan that supports program growth significant enough to impact the national need.	Offers suggestions on ways of involving national groups and members of the business community to assist in sustaining the program through yearly contributions.	Encourages schools to develop a long-range commitment to offering the program.	No sustainability model.
Elementary and/or Middle School component	Offers a challenging, hands-on program for elementary/middle schools which complements the 9 – 12 E/ET program.	Offers learning packets to encourage students in science and technology.	Offers units in textbooks which provide activities in technology.	Offers no program in elementary/middle schools to encourage interest in E/ET.

Assessment of each STEM program is based on program portfolio evidence.

60-51 Outstanding ----- STEM program is approved.
50-31 Commendable – STEM program not approved but encouraged to develop a remedy in targeted areas.
30-00 Unacceptable