



Criteria for Evaluating Science-Technology-Engineering-Mathematics (STEM) Extra-curricular Programs © CMC of ASEE 2008

Topics	3 points	2 points	1 point	0 points
Vision and Goals	Has a strategic plan that clearly defines the mission and vision with measurable goals for the program.	Has a strategic plan that defines the vision or mission. Goals are listed but are not presented in a measurable format.	Has a general vision or mission statement with very little clarity of purpose.	Has no mission or vision statements regarding the program.
Roles for Parents of the Participants & the Program Sponsors	Emphasizes the full roles for the participant, the parents, and the sponsor with measurement criteria on the key role responsibilities.	Centers role identification on the participant and the sponsor involvement as well as the responsibility to the program.	Places role emphasis on the participant without sponsor or parent inclusion in the activity.	Has no evidence of identified roles for the participants, parents or the program sponsors.
Program Objectives	Has a list of program objectives that align with the vision and goals in measurable terms.	Has a list of objectives that focus on the program but are not presented in a measurable format.	Has a list of general objectives as statements with little explanation on how they will be applied.	Has no objectives stated for the program.
Comprehensive STEM Engagement	Offers a fully developed, engineering, activities-based program with projects and problems, which focus on a wide variety of E/ET disciplines. The program is STEM oriented, aligned to State & National STEM learning standards and emphasizes activities integrating math, science, and/or technology.	Has an engineering, activities-based program with project and problem focus. Core concepts lack State or National standards integration or connections and focuses on a single course or subject matter addressing limited E/ET disciplines.	Has program outcomes identified, presented in a haphazard way, with disjointed units of study attached and little evidence of State or National standards or E/ET disciplines.	Has program outcomes identified but are not tied to State or National standards for STEM.

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Research-Based Activity	Emphasis is on student learning and applying essential capability and skills that the Program framework cites. Key concepts incorporate E/ET disciplines connected to the activities, which integrate software and hardware skills.	Emphasis on the curriculum framework is self-directed or self-correcting; each unit of instruction focuses on teaching the specific software and/or hardware procedures for the challenges in the curriculum.	Total emphasis is on the self-directed and self-correcting student activities that focus on teaching only the software or hardware procedures for the specific challenge.	The program is completely centered on software or hardware activities in the E/ET disciplines and the inherent capabilities.
Coaches and Support Faculty Expectations	Well-defined roles and support expectations are listed for the coaches and faculty of the program. Each item in the defined roles is supported by definition and emphasis for the user to understand his/her activity and support.	Roles and expectations are listed for the coaches and faculty but each is very loose and ill defined or not expressly stated as to its importance in supporting the participants.	General roles and expectations are listed for the coaches and faculty of the program with very little definition on how to execute the roles.	The role expectations for the coaches and faculty are not clearly defined or do not exist.
Engagement of Participants through Individual and Team Activities	Individual and team roles are very well-defined with task and work assignments cited for each of the activities. It is clear how the engagement of the roles will be assessed by the coaches or support faculty in the development of the projects.	Individual and team roles are very well-defined with task and work assignments cited for each of the activities. It is not clear how the roles will be assessed by the coaches or support faculty in the development of the projects.	Individual and team roles are very loosely defined, with very ill defined task assignment duties and work assignment assessment in the overall program.	Individual and team roles are not defined as to how the distribution of work will be assessed or how they will form up as a team.
Engineering Experiences as Activities, Projects or Problems build in Rigor and Relevance	Rigor and relevance are built into the engineering activities with all the tasks and processes identified to support the problem-solving operations. Alignment with	Rigor and relevance are built into the engineering activities with all the tasks and processes identified to support the problem-solving operations. Alignment with	Engineering activities are identified, some steps or processes are identified to support the problem-solving operations, but overall tasks lack rigor and relevance for	Engineering activities are identified but no steps or processes are identified to support the problem-solving operations lacking rigor and relevance for the participant.

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	the national STEM learning standards is explicit for all activities.	the national STEM standards is not clear for many activities.	the participant.	
Equity and Diversity in Program	Equity and diversity activities are emphasized in the program, there is a written statement of concern for diversity and the under-represented populations, and evidence of this priority is abundant throughout all aspects of the program.	There is evidence of equity or diversity activities in the program, there is a written statement of concern for diversity and for the under-represented populations but one must dig to find any activity.	There is little evidence of any equity or diversity activities in the program, there is a written statement of concern for diversity or under-represented populations but there is little evidence of any activity.	There is no evidence of any equity or diversity activities in the program and no written statement of concern for diversity or under-represented populations.
Improvement and Revision Processes	There is regularly planned updating of the program with the involvement of business and industry, K-12 and higher education in the overall process.	There is intermittent updating of the program with the involvement of business and industry or K-12 and/or higher education.	There is limited updating of the program activities and limited involvement of the business or industry element or K-12 and/or higher education.	There is no evidence of planned or scheduled updating of the program activities or the involvement of business or industry, K-12 and/or higher education.
On-Going Program Evaluation of Activities	The program offers a systematic evaluation process that measures the degree to which the objectives and goals are being achieved.	The program provides an evaluation checklist for the sponsors to use as an activities review process.	The program encourages the sponsors to evaluate the successes and failures of each offering using the activities, projects, etc.	There is no evidence of a systematic evaluation process for effectiveness of the program activities.
National Program Recognition	All states recognize the program as a national activity. They are supporting this program emphatically as one of their State STEM educational strategies.	Most states recognize the program as a national activity. Most of them are also supporting other programs more emphatically as a national STEM activity.	Some states recognize this program as a means of supporting the STEM activities for development of the E/ET disciplines.	There is no evidence of any national recognition of this program.

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Professional Development of Coach and Sponsor Program	The program offers a comprehensive professional development for coaches, which emphasizes continuous improvement, skills recognition and support capabilities for participants.	The program offers some professional development for the coaches and sponsors using the manuals and written documents that emphasize their roles.	The program provides manuals and written documentation for the coaches and sponsors.	There is no evidence of any professional development for the coaches or sponsor personnel of this program.
Professional Development of School Staff, such as teacher, school counselor, and support staff	The program offers a comprehensive professional development for school staff which emphasizes continuous improvement, skills recognition and support for the participants.	The program offers some professional development for the support staff. However, there is marginal pre or post support once the program is in operation.	The program provides manuals and written documentation such as teaching materials for support staff.	There is no evidence of any professional development for supporting school staff, teachers, counselors or others.
Partnership Models and Active Recruitment	The program requires the formation of a local partnership model which specifies membership criteria to include the community, diversity, industry, and school support.	The program encourages the formation of a partnership model which does specify membership criteria including community, diversity, industry, and school support.	The program encourages the formation of a partnership model. However, it does not specify membership criteria.	The program does not encourage or require the development of a partnership model with active recruitment of sponsors.
Federal or State Support	The program works with each state and federal agency to implement aspects that align with laws and incentive offerings.	The program works informally with the state or federal government to implement some aspects of the activities.	The program works with supporting organizations without the aid of the state or federal government.	The program does not work with the state or federal government.
Local School Involvement	The program has a professional support staff with the experience to help local teachers and schools understand the goals and objectives of the activities.	The program has a support staff that develops the local teacher and school support involvement. It also provides a list of participating schools for the staff to work with.	The program depends on coaches and support staff to develop the local teacher and school support involvement.	The program offers no local teacher or school support.

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National Leadership Support	The national program has a Board of Directors or National Advisory Board comprised of business and industry, K-12, and higher education that oversees program priority and integrity.	The program has a local advisory committee which provides advice and reviews the published materials for the program as well as the planned activities.	The program invites local professionals to review the materials and offers suggestions for strengthening the content in the local environment.	There is no evidence that the program has developed a stakeholder oversight committee for local leadership.
Required Equipment and Provided Support for Program	The program has an operational plan for the program that provides optional bids for equipment, tools and supplies to support the activities.	The program provides a list of required program equipment, tools and supplies with suggested sources for their acquisition.	The program provides a list of required program equipment, tools and supplies.	There is no list of program equipment needs.
Program Evaluation by Outside Source	The program offers an outside source to evaluate the success of the activities based on the goals and objectives cited by the sponsors and supporters.	The program provides a checklist of evaluative criteria to assess the activity. The sponsors and supporters are encouraged to use the checklist.	The program encourages the sponsors and supporters to develop an evaluation process to assess success.	There is no evidence of a program evaluation process by an outside unattached source.
Evidence of Budgetary Leadership and Sponsor Support	The program Board of Directors, sponsors and supporters provide incentives by funding and leadership to support the activities.	The sponsors, supporters, and advisory committee are actively soliciting support while presenting a positive leadership image.	The program invites business and industry professionals to support and lend leadership expertise to the activities proposed.	There is no evidence that there is budgetary support or leadership provided by the stakeholders, sponsors, industry, or business.
Sustainability	A business plan is provided that ensures the program's continuance, a financial obligation from sponsors and allowed growth.	Suggestions are provided to involve national groups, and members of the business – industry establishment to sustain the activities.	The program encourages the sponsors and supporters to establish a long term commitment to the continuation of the activities.	There is no sustainability model available for this program.

Assessment of each Extra - Curricular STEM program is based on the overall program evidence.

66-57 Outstanding ----- Extra-Curricular STEM program should be approved.

56-37 Commendable – STEM program may be approved and encouraged to develop remedies in targeted topics.

36-00 Unacceptable – STEM Program requires considerable adjustments in topic areas to operate with approval.