

TEMPLATE FOR STUDENT PROGRAMS

FEBRUARY 1994

NAME OF FACILITY OR PROGRAM:

NAME OF PERSON COMPLETING TEMPLATE:

DATE:

<u>Components of Effective Practice</u>	<u>Intended Program</u>	<u>Actual Program</u>
<p>Best Practice</p> <p>1. Program Design</p> <ul style="list-style-type: none"> a. Program goals are clearly defined and understood by all b. Program is designed to reflect the findings of research and knowledge of best practice c. Teachers, administrators, scientists, and others are involved in program design and implementation d. Laboratory or other program environment is safe and supportive e. Program interacts, collaborates, and networks with other programs, local school districts, and universities, as appropriate <p>2. Student Selection</p> <ul style="list-style-type: none"> a. Clear criteria related to program goals are established and used for student selection 	<p>Intended Program</p>	<p>Actual Program</p>

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<p>b. Criteria for selection include the support of a teacher or mentor from school or community before program (for continuous application of learnings from program)</p> <p>c. Active outreach and recruitment targets students who are at-risk and those from groups underrepresented in science, mathematics, and technology</p> <p>3. Preparation</p> <p>a. Students are oriented to their role and the nature of their experience, to the Lab environment, and to the Department of Energy/Lab mission and competencies, using grade-level appropriate language</p> <p>b. Program administrator(s), students, teachers, and parents establish mutual expectations in advance</p> <p>c. Students receive background materials or orientation in advance</p> <p>d. Students receive advance communication about logistics and housing, when appropriate</p>		

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<p>e. Program establishes relationship with student's teacher, school, and/or district</p> <p>f. Program selects, orients, and trains program staff and associates to ensure that they understand the goals and nature of the program and apply the most appropriate knowledge, skills, attitudes, and strategies to their work with student participants</p> <p>4. Program Activities</p> <p>a. Complement or enhance student's current science, mathematics, and/or technology curriculum</p> <p>b. Involve students in actually <i>doing</i> science, through using tools, methods, and processes of scientists; demonstrate that research has unknown outcomes, uncertainties, and loose ends</p> <p>c. Are appropriate for individual student's development level, capability, gender, cultural background, technical skills, interests, language, and learning style</p> <p>d. Are challenging, engaging, exciting, and fun</p>		

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<ul style="list-style-type: none"> e. Involve new technologies f. Have definable end-products for students, such as projects and presentations to peers g. Assign students to a team, modeling interdependence and collegiality (if a research experience, students join an existing research team of scientists and other Lab staff) h. Assign student or groups of students mentors for guidance, support, structure, role modeling, etc. i. Provide opportunities for developing knowledge of important science concepts, skills, and "scientific habits of mind j. Expose students to variety of careers identified through research on future job market k. Provide opportunities for students to develop career life planning skills l. Include special attention to building individual self-confidence and 		

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<p>interpersonal skills</p> <p>m. Include assessment of students' work for the purposes of giving them feedback on the quality of their work and improving program activities</p> <p>5. Unique Contribution of DOE Laboratories</p> <p>a. Scientist, engineers, and technicians:</p> <ul style="list-style-type: none"> • Participate in program design and implementation • Assist in developing scientific/technical content • Work with student to solve real/ simulated problems • Serve as role models <p>b. Scientific/technical facilities and equipment are used for training, immersion, and science experiences</p> <p>c. Student activities relate to the Lab's mission, unique capabilities, and core competencies</p> <p>6. Follow-up</p> <p>a. Mechanisms such as newsletters and</p>		

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<p>electronic mail enable communications between students and between students and Lab scientists/technicians; students continue to have access to resources and information of the Lab</p> <p>b. Lab gives students appropriate recognition (e.g., ceremony, awards, T-shirts); Lab encourages recognition by school and district (e.g., press releases, ceremony)</p> <p>c. Lab provides advice, support and encouragement for students to share Lab experience with others and assume leadership roles (e.g., through tutoring, presentations)</p> <p>d. Lab maintains commitment, contact, and support to students to provide them information on additional opportunities and encourage them to pursue and/or consider science and engineering careers</p> <p>7. Program Administration:</p> <p>a. Is clearly assigned as the responsibility of one or more persons</p> <p>b. Involves parents as much as possible and</p>		

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<p>in as many ways as appropriate</p> <ul style="list-style-type: none"> c. Communicates with and reports regularly to DOE headquarters d. Maintains database of applicant and participant information. <p>8. Program Evaluation</p> <ul style="list-style-type: none"> a. Monitoring occurs during program b. Students and mentors have opportunities to provide feedback and input during and after the experience c. Pre- and post- program assessments gather information about impact on students d. Program administrators use evaluation results to make changes. 		