GUIDELINES FOR DEVELOPING
BUILDING LEARNING WITH TECHNOLOGY UNITS

During the July Design Institute each team is asked to construct a unit of instruction, which addresses both content and technology standards required for future teachers. This unit should require a minimum of 3-4 weeks of instructional time and consist of a series of modules that teach concepts relating to a broad topic. The structure of each module should utilize the 5 E's framework (Engagement, Exploration, Explanation, Extension and Evaluation) and include such instructional strategies as problem-based learning, computer-based simulations, Web-based learning and electronic portfolios. Each module should also contain a performance-based assessment, which measures student learning. At the conclusion of the unit a culminating activity should occur which helps students integrate unit content and demonstrate what students have learned. The format for creating units is designed to encourage consistency and quality of units developed and enhance sharing of units across teams.

UNIT TITLE:

Unit goal: Overall purpose of the unit

Grade Level (K-16):

General Subject Area(s):

Minimum time required for the unit:

Concepts learned across all unit modules:

Standards addressed by unit modules

Technology needed in unit modules (computer software, scanners, CD-ROM's, digital video, handheld computers, etc.):

Technology-enhanced instructional strategies employed

Examples of technology-enhanced instructional strategies: technology-enriched problem-based learning, computer-based simulations/games/role-playing, Web-based learning, electronic portfolio development, telecollaboration and teleresearch, technology-enhanced demonstrations/experiments, etc.)

Title of Each Module:

Unit Culminating Activity:

Unit Author:

MODULE

Module Title:

Estimated time to complete:

Module objectives:

Concept(s) learned in this module:

Standards addressed in this module (Praxis, K-12 content, Technology):

Technology-enhanced instructional strategies utilized in this module:

Adaptation of Lesson for Special Needs' Students:

Components	Brief description of module activities	Student Grouping*	Materials/ Technology
Engagement			
Exploration			
Explanation			
Extension			
Evaluation			

*Student grouping: Individual, paired, small group, whole class, etc.

Expected module outcomes:

Performance-based assessment of module outcomes:

5 E'S COMPONENTS AND EXAMPLES FOR BUILDING MODULES

Component	Examples
I. **Engagement**: Activities that capture student, attention, stimulate their thinking and help them to access prior knowledge.	v Demonstration by teacher and/or student v Reading from a current media release, science journal or book, piece of literature (biography, essay, poem, etc) v Analyzing a graphic organizer
II. **Exploration**: Students are given time to think, plan, investigate, and organize collected information	v Reading authentic sources to collect information to answer open-ended questions or make a decision v Solve a problem v Construct a model v Design and/or perform an experiment
III. **Explanation**: Students are involved in an analysis of information gained through exploration. Their understanding is clarified and modified because of reflective activities	v Student analysis and explanation v Supporting ideas with evidence v Reading and discussion
IV. **Extension**: Students expand and solidify their understanding of the concept and/or apply it to a real world situation	v Information learned is used to solve a real-world problem v Students classify new information or engage in error analysis
V. **Evaluation**	v Teacher and/or student generated scoring tools or rubrics are used to measure learning