

**LSST PLANNING MATRIX**  
**UTILIZING THE UNDERSTANDING BY DESIGN PHILOSOPHY**

Audience	Desired Outcomes	Essential Questions	Assessment Strategies	Participant's Prior Knowledge	Instructional Strategies & Learning Tasks
Who is our audience?	1. What are the 'big ideas' and deep understandings desired? 2. What specific knowledge and skills will participants gain?	What questions lead to those understandings stated in "Desired Outcomes"?	What is acceptable evidence that participants have understood the key ideas and achieved the outcomes?	How will you draw on participants' ideas, interests, and experiences to connect them to the key ideas of the program?	What type of instructional practices, strategies, and learning activities will best convey the key ideas and concepts?

## **A Brief Explanation of the LSST EPO Design processes using Understanding by Design as a model.**

Although we want our audiences to experience the excitement of discovery, isolated activities, activity alone is not sufficient to lead our audiences to the deeper understanding of the wonders of the universe, therefore we are framing our work in the Understanding by Design philosophy.

### **Who is our audience?**

A needs assessment can help differentiate your various audiences and their unique characteristics. This is the foundation for prioritizing educational goals and objectives for each audience.

### **What are the ‘big ideas’ and deep understandings desired? What specific knowledge and skills will participants gain?**

What do we want our audience to come away understanding? What are our audiences likely to misunderstand? How can we address potential misunderstandings? What lies at the core of the content we are focusing on. How do we prioritize? What essential questions can we develop to guide inquiry and focus instruction and activities for uncovering the important ideas of the content?

Although knowledge and skills are the building blocks for the desired understanding, it is useful to focus on the ‘big ideas’ of the content. Big ideas are: broad and abstract, ideally represented by one or two words, universal in application, and timeless. Big ideas provide a conceptual ‘lens’ for study, provide breadth of meaning by connecting and organizing many facts, skills and experiences, point to ideas at the heart of expert understanding of the subject, require ‘uncoverage’ because its meaning or value is rarely obvious to the learner, is counterintuitive or prone to misunderstanding, and is transferrable to other issues and topics.

### **What questions lead to those understandings stated in “Desired Outcomes”?**

Essential questions push us to the heart of things. Pursuing answers to these questions leads to deeper understandings and more questions! The best questions therefore serve to promote understanding of the content of a particular topic, but they spark connections and promote transfer of ideas from one setting to another.

### **How will we know (what is acceptable evidence) that participants have understood the key ideas and achieved the outcomes?**

What does understanding look like if it is there or is not there? What will count as evidence for that understanding? Where should we look for evidence? What is the type of product we should see done well? What should we look for specifically, for us to judge the degree to which the participant understands? Answers to these questions will of course depend on the audience and the nature of the EPO Project.

### **How will you draw on participants’ ideas, interests, and experiences to connect them to the key ideas of the program?**

After completion of the initial needs assessments, we will have a good idea of the knowledge and skills needed by each audience to successfully accomplish their key tasks of an EPO project. Development of essential questions focused at the particular audience will facilitate engagement in the topic. Big ideas are abstractions, therefore our design challenge is to bring these abstractions to life!

### **What type of learning activities will best convey the key ideas and concepts to support outcome attainment?**

Typical content will be grounded in at least three of the six facets of understanding as described by Wiggins and McTighe. Specific learning activities will of necessity vary depending on the audience and the content. Content will center around “big ideas” to provide a focusing conceptual lens to the topic. Breadth of meaning will be obtained by connecting and organizing facts and experiences.