

Syllabus

Inquiring Minds in Your Science Curriculum

Introduction

In this course, you will start with the backwards design to develop a unit based on scientific content. The unit will emphasize students' inquiries & will include instructional activities for facilitating students' abilities to formulate meaningful questions. This course will contain the following elements:

1. Understanding the backwards design
2. Understanding the significance of scientific inquiry as the basis for learning scientific content
3. Digging deeper into content area
4. Creating an authentic culminating assessment
5. Designing instruction to facilitate scientific inquiry & teach the scientific method

During office hours, we will be working with the web-based software called Elluminate. This program requires headphones & speakers. You can purchase them for a low price (\$5-15) if needed.

Credit

This course will earn you one-credit for professional development in-service through the Teacher Center Online Academy. This course will last six weeks. Assignments (including readings, research, discussions, postings, designing units, etc...) will take a total of 15 hours to complete.

Course Description: Inquiring minds are motivated minds! We will start with the backwards design approach, defining your essential understandings for the students using standards & your curriculum. Using these EU's, participants will design instruction addressing needed skills to meet their goals. This course will teach you to guide your students to an understanding of scientific variables & constants. We will discuss strategies for helping students formulate meaningful questions based on their own inquiry & curiosity. Experimental design will be explored as participants design specific lessons for teaching their students to define variables & constants, make hypotheses, gather data, graph data & share results with the scientific community. Young scientists will become actively involved in this authentic & intrinsically motivating process!

Standards

This course makes use of the following standards. To find out how each assignment aligns with the standards, please look at the Road Map.

MST Standards

Standard 3: Mathematics

- Mathematical Reasoning
- Number Sense
- Mathematical Modeling or Multiple Representation
- Measurement

Standard 4: Science

- Scientific Inquiry
- Physical Setting
- Living Environment

Career Development & Occupational Studies

S1: Career Development

S2: Integrated Learning

English Language Arts

S1: Information & Understanding

S3: Critical Analysis & Evaluation

S4: Social Interaction

Credit/Award Criteria

To earn full in-service credit, you will need to complete the following:

1. Meet the Essential Understandings of the Unit as listed on the roadmap.
 - a. Participate in discussions either using chat feature or the group discussion board.
 - b. Complete assignments
 - c. Participate on the site (at least twice a week)
2. Participants will receive Full Credit, Partial Credit or No Credit in addition to feedback from the instructor for each assignment. You can expect feedback to be given within 3 days of the assignment's due date.
3. Credit will be awarded based on estimated time for each assignment.
 - a. The total amount of time is 15 hours.
 - b. Full credit will earn you 100% of the minutes for the assignment.
 - c. Partial credit will earn you 50% of the minutes for the assignment (until you improve the assignment based on feedback & reflection).
 - d. No Credit will earn you 0% of the minutes for the assignment (until you complete and/or improve the assignment based on feedback & reflection).

Late Assignments

1. Assignments are to be turned in **at 11:59:59 of their due date!**
2. Please email me or speak to me during office hours if you have any extenuating circumstances. **Participation Expectations**

Technological Prerequisites:

You should be familiar with operating the following technology:

1. Ability complete basic tasks & navigation of the Internet.
2. Use the word processor, WORD.

3. Create documents & attach them to your posting for assignments.
4. Access to headphones and speakers.
5. It would be best if you have access to a high speed connection (cable, DSL, etc)

Office/Contact Information

Office Hours:

I will be available on Elluminate on _____ evenings from _____ to _____. You can speak to me using your headphones & speakers or using the typing chat feature.

Email & Phone

jmelchior@nycap.rr.com

518-331-6321