

Preparing for the Future: Integrating Math, Science and Technology (K-12)

Objective	Activities	Assessment	NET Standards	Seat Time
Week One				
<p>Participants will understand and agree to the course syllabus.</p>	<p>“Is this course for me?”</p> <ul style="list-style-type: none"> - Students will read the syllabus and agree to take the course - Participants will post in Item called “I Have Read It” 	<p>Agreement Response</p> <ul style="list-style-type: none"> - Participants statement that the syllabus has been read - Participant agrees to the criteria of the course 	<p>I. Teachers demonstrate a sound understanding of technology operations and concepts.</p> <p>V. Teachers use technology to enhance their productivity and professional practice.</p> <p>VI. Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK – 12 schools and apply that understanding in practice</p>	<p>15 min</p>
<p>Participants will understand the structure and use of an on-line course.</p>	<p>“Introduce Yourself”</p> <ul style="list-style-type: none"> - Participants will read the tutorial for using <i>Caucus</i> - Participants will use <i>Caucus</i> to introduce themselves 	<p>Rubric: Used <i>Caucus</i> Completed assignment</p> <ul style="list-style-type: none"> - Participants successfully logged in - Participants successfully were able to use <i>Caucus</i> - Participants introduced themselves with 5-7 sentences in and Item called “Meet Your Classmates” 	<p>V. Teachers use technology to enhance their productivity and professional practice.</p> <p>VI. Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK – 12 schools and apply that understanding in practice.</p>	<p>30 min</p>
<p>Participants will begin to explore the meaning of Inquiry Based Learning by reading articles.</p>	<p>“What is Meant by Inquiry Based Learning”</p> <ul style="list-style-type: none"> - As a prerequisite for Week two participants will read “Exploring Inquiry Approaches to Learning” and “Concept to Classroom: Inquiry Based Learning” 	<p>Rubric (see 1st activity for Week 2)</p>	<p>IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.</p>	<p>1 hour</p>

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Week 2				
<p>Through the use of NYS Standard 1, articles and video clips, and powerpoint presentation, participants will discuss the benefits of inquiry based learning and importance to student achievement.</p>	<p>“What is Meant by Inquiry Based Learning? What would be some steps in getting started?”</p> <ul style="list-style-type: none"> - A prearranged time will be set up for students to meet on the program: <i>Eluminate</i> - Show participants the basics of the program that would be useful for this course - Use the time to introduce the unit using a PowerPoint presentation with video clip - Students having already read assigned reading will discuss the definition its benefits for use in the classroom 	<p>Rubrics:</p> <ul style="list-style-type: none"> - Participants were present for presentation - Participants took part in the discussion on the benefits of inquiry based learning and importance to student achievement - Verbal or written discussion is acceptable 	<p>IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.</p>	<p>1.5 hours</p>
<p>Participants will read the remaining 6 Standards, and discuss reasons for integrating math, science and technology.</p>	<p>“Why Integrate Mathematics, Science and Technology?”</p> <ul style="list-style-type: none"> - Participants will go on to read “Why Integrate Mathematics, Science and Technology” (Best Practices, pdf). - Participants will also 	<p>Rubric: Why Integrate MST</p> <ul style="list-style-type: none"> - Participants are able to support reasons for integration based on readings and experience - Participants demonstrate the appropriate 	<p>IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.</p>	<p>1 hour</p>

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	<p>read the remaining 6 standards and discuss how they lend themselves to integration and what it would be a benefit to student learning</p> <ul style="list-style-type: none"> - Participants will respond in item called "Why MST" 	<p>contributions, attitude, focus and collaboration during discussion</p>		
Week 3				
<p>Participants will read about different approaches for integration and discuss what would be best for their classroom or district.</p>	<p>"What are some integrated approaches and possibilities?"</p> <ul style="list-style-type: none"> - Participants read about different approaches: "What are some approaches to MST?" (Best Practices, pdf) - Discuss as a group what would be appropriate for their district and why - Each participants posts individually in item called "Possibilities" 	<p>Rubrics: Approaches and Possibilities</p> <ul style="list-style-type: none"> - Participants are able to specify and support possibilities or approaches that would work in his/her district or classroom - Participants demonstrate the appropriate contributions, attitude, focus and collaboration during discussion 	<p>II. Teachers plan and design effective learning environments and experiences supported by technology.</p> <p>IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.</p>	<p>1 hour</p>
<p>Participants will look at models and resources already available (ie: webquests, project based learning, etc) from either the instructor's resource list</p>	<p>"Taking a look at some examples: and resources"</p> <ul style="list-style-type: none"> - A prearranged time will be set up for students to meet on the program: <i>Illuminate</i> 	<p>Rubrics: Examples and Resources</p> <ul style="list-style-type: none"> - Participants were present for presentation 	<p>IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.</p>	<p>2 hours</p>

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<p>or some that they have found on their own and share what they have found.</p>	<ul style="list-style-type: none"> - View a PowerPoint Presentation demonstrating examples and resources using <i>Ellumination</i> - Participants take time to look at resources - Share what they have found - Post in item called "Examples and Resources" 	<ul style="list-style-type: none"> - Participants demonstrate the appropriate contributions, attitude, focus and collaboration during discussion - Verbal or written discussion is acceptable 		
Week 4				
<p>Each participant will decide upon a topic and the problem to be investigated to be used with other teachers in their district or to be used in their own classroom.</p>	<p>"Come up with a topic "</p> <ul style="list-style-type: none"> - Participants come up with a topic with a problem or set of problems to be solved - Participants will indicate the approach - Post individually in Item called "Topic" - 	<p>Rubric: Quality of topic</p> <ul style="list-style-type: none"> - Participants will present a topic with a problem or set of problems to be solved that will support MST Integration - Participants will include the approach he or she will be using 	<p>II. Teachers plan and design effective learning environments and experiences supported by technology.</p>	<p>30 minutes</p>
<p>Each participant will develop student outcomes in alignment with the NY State Standards</p>	<p>"What do I want my students to learn?"</p> <ul style="list-style-type: none"> - Participants write objectives - Align with Standards - Post in item called 	<p>Rubric: Student Outcomes and Standards for unit</p> <ul style="list-style-type: none"> - Participants will present clear and specific objectives that relate to the topic 	<p>II. Teachers plan and design effective learning environments and experiences supported by technology.</p>	<p>2 hours</p>

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	<p>“Outcomes”</p>	<ul style="list-style-type: none"> - Participants will state the State standards that are appropriate to the objectives. - Participants posted item on time 	<p>III. Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning</p>	
Week 5				
<p>Participants will plan specific project tasks, parameters for student decision making, student outcomes and the time frame.</p>	<p>“What is the plan?”</p> <ul style="list-style-type: none"> - Create a table of Objectives, Materials Activities, Assessment and Time Frame - Post individually in item called “Plan” 	<p>Rubric: Planned Unit</p> <ul style="list-style-type: none"> - Participants indicated a problem or set of problems to be solved - Participants included objectives, activities, materials, assessment and time frame - Participants posted item on time 	<p>II. Teachers plan and design effective learning environments and experiences supported by technology.</p> <p>III. Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.</p>	<p>3.5 hours</p>
Week 6				
<p>Participants will share units with each other for the purpose of feedback and gaining additional ideas.</p>	<p>“The final product”</p> <ul style="list-style-type: none"> - A prearranged time will be set up for students to meet on the program: <i>Elluminate</i> - Participants share their plans - Synchronous setting (<i>Elluminate</i>) 	<p>Rubrics:</p> <ul style="list-style-type: none"> - Participants are present for unit presentation. - Participants presented his/her their unit with others and offered feedback to others in the group 	<p>IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.</p>	<p>1.5 hours</p>
<p>Participants will complete course evaluation</p>	<p>“Course Evaluation”</p>	<p>-Participants completed course evaluation</p>	<p>IV. Teachers apply technology to facilitate a variety of effective</p>	<p>15 min</p>

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	-Participants will be asked to complete a course evaluation online		assessment and evaluation strategies.	