

Designing Technology Infused Project-Based Learning Experiences

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Office Hours: Arranged by appointment.

Introduction:

The world that we live in has undergone a fundamental shift in the way that we use and manage information. As educators, it is imperative that we employ all effective methods of communication and organization of course content to reach students who have been raised in the age of information. Our students must be prepared to meet the challenges of a highly technological environment where computers, networks and a wide array of other technologies are fundamental tools used in every workplace and educational setting. This course is specifically designed to aid technically literate educational professionals in the development of innovative educational practices that address the Standards of Learning in Virginia through technology-infused instructional activities.

Course Description:

4.5 CEUs / 3 Graduate Credits - The course will consist of an introduction to Project-Based Learning (PBL), associated terminology, computer-based technologies and resources that can be used to support the PBL approach to curriculum. The course will define a general problem-solving process that participants will employ in working with the curriculum. Strategies for utilizing the Internet and other technology-based resources in instruction and ethical / managerial issues associated with using PBL and computer technology with students will be explored. Students will learn to employ search techniques to locate information that will assist them in their study and presentation of Project-Based Learning. Participants will employ a variety of methods to prepare and present lessons using the Project-Based Learning approach.

Course Objectives: Upon completion of this course students will be able to:

1. Demonstrate understanding of Constructivist educational theory
2. Develop a model of instruction which employs student-centered instructional methodologies and cooperative learning
3. Model research strategies (both online and traditional methods) that will be taught to students within Project - Based Learning (PBL) units
4. Employ brainstorming as a strategy for engaging students in the unit under study
5. Develop PBL units that engage students in the Problem - Solving process
6. Integrate appropriate technology into PBL units to enhance the learning experience for learners
7. Produce Project - Based Learning (PBL) units that align with curriculum
8. Present a self-composed PBL unit (as if introducing the unit to a group of students at the appropriate grade level) and explain the instructional design of the unit
9. Document the PBL unit using the NCLB Lesson Plan Format, citing Virginia SOLs and NETs standards that are covered within the lesson
10. Implement a plan for dealing with the ethical and managerial issues that may arise as a result of the instruction or access to technology - based resources utilized within the unit

Course Requirements:

The learner is expected to:

- complete all unit assignments;
- participate regularly in discussion boards and group discussion boards as directed;
- independently use email communication as the primary method of communication with the instructor and other students;
- submit completed work in a timely manner; and
- develop a lesson plan integrating PBL with their curriculum and appropriate technology according to the NCLB template provided at the end of the syllabus.

Course Assignments:

1. Lab Exercises from the class web site will be assigned associated with each class. You are encouraged to back up the text of your work each day and save it to floppy disk and your personal hard drive should there be some problem with submission of the work through e-mail or a problem with your disk. (Backup!)

2. Multimedia Lesson Presentation (10 minutes maximum) on a lesson that you have developed during this course which demonstrates integration of Project-Based Learning (PBL) and appropriate technology into curriculum of the subject that you teach. Make sure to explicitly state the Virginia Standards of Learning being addressed or supported in your presentation.

- Plan one week's lessons that showcase the integration of technology into the subject(s) that you teach
- Build a presentation using a collection of the tools that we have studied above.
- Edit the presentation.
- Include the instructional strategies that you would employ to manage instruction in that environment
- Facilitate a discussion regarding any ethical or legal concerns that might need to be addressed as a result of this instructional unit.
- Compare and contrast the presentation of this same lesson in an environment where only one computer is available in a traditional classroom setting.

3. PBL Project w/ NCLB Lesson Plans - A curriculum related web page that presents lesson content in a Project-Based Learning format

Note: All assignments are to be turned in on the date specified. Assignments are to be typed, double-spaced, Times New Roman font @ 12 pt. Please turn assignments in without report covers or binders. A cover page stapled to the assignment at the top left - hand corner of the paper will suffice.

4. Reflection Paper on the Tech Trek – The Next Generation Experience. Reflect on what you have learned during the Tech Trek TNG experience. What did you find to be useful to your instructional practice? What will change in the instructional environment for your students this school year? How will those changes impact the overall cognitive level of what students experience within your curriculum? What was not covered that you feel you still need to address to enable your students to achieve at a maximal level? How were the presentations of your peers useful to you in the process of learning to develop technology – infused curriculum for your students? Discuss anything else that you feel the presenters at TT TNG need to focus on to continue to improve the experience for returning or new participants.

Grading:

For the CEU course:

Majority of competencies for course successfully completed = Pass

Majority of competencies for course **not** successfully completed = Fail

For the graduate credit course:

4.0 - 3.6 = A

3.5 - 2.6 = B

2.5 - 1.6 = C

1.5 - Below = F

Evaluation Methodology:

The final course grade will be determined using the following distribution:

Problem - Based Learning (PBL) Project w/ NCLB Lesson Plans 40%

Presentation 30%

Attendance / Lab Exercises / Regular Online Participation 30%

Special Needs Students: Students with declared special needs will be accommodated as per University policy. Please meet with the instructor to discuss potential accommodations.

Attendance Policy: Students will be expected to attend all class sessions. If you must be absent on a given class day, please contact the instructor *before* the absence. Performance based class assignments and lecture / discussion participation cannot be made up.

Suggested Text: You may choose to use additional resources that can be located at libraries, bookstores, or on the Internet itself. If you find one that may be useful to the class at large, please share that information in class.

Required materials/accounts: A USB drive, floppy disks, or other storage media large enough to accommodate research that you collect and files you generate. A Web-based e-mail account for use with assignments performed in class. This account is obtainable free from [Yahoo Mail](#).

Note: Due to specific interests and needs of class members, as well as the response of the network (both local and Internet) it will be necessary to maintain a high degree of flexibility with this suggested schedule. We may need to change topics or modes of instruction on or during any given class day.