Johns Hopkins University,
School of Professional Studies in Business and Education,
Graduate Division of Education

Integrating Technology into Instruction
893.505 Section 71
(Spring Semester, 2006, MCC)

Instructor: Demetri M. Orlando
Phone: 301-841-2175 (work) 240-731-7937 (cell - do not call after 9pm)

Credit Hours: 3

Class Time: Every other Saturday: 9am-2pm, 2/14 - 4/15

Office hours: Call to set up a time, either face to face or online

Course web site: http://bb6.spsbe.jhu.edu/
Text web site: http://wps.prenhall.com/chet_roblyer_integratin_3/0,5781,281780-,00.html
Library web site: http://www.library.jhu.edu/eresources/

Course Description: Students examine and formulate strategies for integrating technology into specific levels of the K-12 curriculum. Particular emphasis is on evaluating the scope and sequence of software programs for their correspondence to curriculum objectives. Class members explore ways that technology can be used to organize the classroom as a student-centered learning environment; support instructional strategies such as cooperative learning, thematic teaching, problem-solving, project-based-learning, and higher-order-thinking-skills; and monitor children's progress toward their learning goals. Participants develop strategies of differentiated instruction for including students with diverse cultural and learning needs.

Enduring Understandings (the "big ideas" of this course):

1) Effective technology integration is based on curricular needs and improves learning outcomes.
2) Effective technology implementations offer "relative advantage" over non-technology solutions for teaching and learning.
3) Effective technology integration is supported by a mix of directed and constructivist teaching strategies which build students' 21st century skills and multiple intelligences.
4) A variety of useful technology materials (software, hardware, online resources) are available for every content area and are constantly improving.
5) Collaborating with the online community of teachers and coordinators using technology is an important element of professional development.

Course Objectives:

6) Demonstrate knowledge of, and ability to use, a variety of technology materials for teaching & learning:
   a) Develop a conceptual framework which explains a rationale for technology integration.
   b) Use word-processing, spreadsheet, database, presentation, publication, multimedia, and concept-mapping software for personal productivity and instructional purposes.
   c) Identify, operate, and evaluate K-12 software that corresponds to curricular objectives.
   d) Identify adaptive and assistive technologies which support special needs.
   e) Demonstrate the ability to use various computer peripheral devices including digital camera, memory stick, CD-drive, projector, etc.

7) Apply *instructional strategies* that effectively integrate technology use into K-12 instruction and assessment.
   a) Show a lesson idea which *promotes higher-level thinking skills* by effectively integrating K-12 educational technology into the curriculum.
   b) Describe *directed and constructivist learning strategies* for incorporating educational technology into a particular content area.
   c) Develop *rubrics* for assessing student technology-integrated projects, and an understanding of the *portfolio* process.
   d) Identify and develop technology materials (software and lessons) which support *cooperative and collaborative learning*.
   e) Examine software that supports *data-driven instruction and assessment*.

8) Access online resources for research, communication, collaboration, and professional development.
   a) Use class website, wiki, and discussion boards to collaborate online.
   b) Use top educational sites for lesson plans and instructional resources (Schrock Guide, Blue Web'N, WebQuest Portal, FunBrain, etc.)
   c) Use state and national web sites promoting professional development for educational-technology (MICCA, ISTE, NECC, NCREL, Tapped-In).
   d) Demonstrate understanding of ISTE NETS for students and teachers.
   e) Subscribe to list-servs that support content-areas and technology integration (EDTECH).
   f) Access JHU Electronic Learning Community and the ELC portfolio tool.
   g) Use the JHU online library databases to research, procure, and summarize significant literature related to technology and K-12 students.
   h) Demonstrate understanding of issues surrounding internet use including: acceptable use policies, protecting children's privacy & security, universal access/design, and copyright.

Required Text

While the following text is <u>not</u> <u>required</u> text for this course, it is highly recommended:

Roblyer, M. D. (2005). *Integrating educational technology into teaching*, (4th edition). Upper Saddle River, NJ: Prentice Hall.

Absence and Lateness Policy
Due to the limited number of class sessions, prompt attendance at all sessions is required. If you have exceptional circumstances, please discuss them with me and an alternative assignment may be used to help make up points. Please communicate with me in advance of any absence. Unexcused absences will result in a 10 point deduction off the final grade. Being late for class will also result in grade point deductions. Arrival at class more than 20 minutes late will count as tardy. Two tardies will count as one absence. All assignments are also required on the specified due dates; late assignment submission will result in grade reductions.

Assignments

Classroom Participation 10%
Prompt attendance and active participation in face-to-face classes is essential to making this a valuable learning experience.

Asynchronous Communication 10%
Asynchronous class discussion will take place on discussion boards, wikis, and by email. This communication is an essential element of this course. This is not a discrete assignment, it is integrated throughout the course, as called for in various assignments on the Course Outline.

Article Summary and Library Periodicals Database Knowledge 7%
Students will find, read, and publish to the discussion board a summary of an article from a peer-reviewed journal from the JHU Library online database of periodicals. This assignment will include a follow-up quiz on the various databases and their capabilities.

Quizzes 7%
There will be a few quizzes to assess retention of subject matter.

Integration Examples 6%
Students will contribute to an online guide of technology-integrated lessons [using the class wiki] which highlight effective uses of technology and promote higher-level thinking skills.

Conceptual Framework 5%
Using concept-mapping software, students will visually depict a rationale and explanation of technology integration incorporating principles of curricular need, relative advantage, 21st century skills, multiple intelligences, etc.

Productivity Software 7%
Verify your ability to use desktop publishing software (Word, Publisher, etc.) by submitting a product you've created which demonstrates various capabilities of these tools. Verify your ability to use multimedia software: (PowerPoint, etc.) by submitting a presentation you've created. Verify ability to use spreadsheet software (Excel, etc.) by submitting a spreadsheet with embedded bar-graph or other chart.

Technology Plan 7%
The most effective way to gain access to technology resources and to use them effectively is to create a specific plan for your classroom (or school). This will be a two-page plan in outline format including: curricular-area need, proposed solution, pricing, professional development, implementation, differentiated instruction, assessment, project evaluation, and project publication/sharing.

Major Project 40%
One of the most effective ways to learn something is to teach it. The class will collaborate to publish an online textbook [in wiki format under GNU open licensing] for k-12 technology integration. Students will work individually or collaboratively to write chapters about technology integration in various content areas and educational applications. Chapters will include national standards, descriptive narratives, specific examples, resources, references, rubrics, and links. Chapters will include lists of available software with descriptions and recommendations for scope & sequence. Students will create assessments for the knowledge presented in each chapter. Students will collaborate to review and revise each others' work, and will be responsible for learning the material presented in each others' chapters.

Evaluation and Grading

Point totals correspond to letter grades as follows:

94-100 A
90-93 A-
88-89 B+
84-87 B
80-83 B-
78-79 C+
70-77 C
0-69 F
I = Incomplete (will only be given if agreed upon prior to the last class meeting)

Course Outline
(see attached)

Classroom Accommodations for Students with Disabilities
If you are a student with a documented disability who requires an academic adjustment, auxiliary aid, or similar accommodation, please contact Ann Harrell in the Office of Student Affairs at 410-872-1210 or via e-mail at harrell@jhu.edu. If you need course adaptations or accommodations because of a disability or need special arrangements, please inform instructor so that arrangements can be made.

Supplemental Reading List
Articles will be handed out in class and/or made available on the class website.

Bibliography
The Roblyer text has a useful bibliography at the end of each chapter.