

Integration & Implementation Of Virginia DOE Computer Technology Standards Of Learning Into The K-12 Curriculum

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Office Hours: Arranged by appointment.

Introduction:

The world that we live in is currently undergoing 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. Our students must be prepared to meet the challenges of a highly technological environment where computers are a fundamental tool used in every workplace and educational setting. This course is specifically designed to meet the Computer Education and Technology Standards for Instructional Personnel in Virginia. We owe it to ourselves to become aware of the resources at our disposal so that we might make wise choices about their use and value to our lives. This course is designed to acquaint us with the relevant terminology and enable us to analyze the tools that we are afforded by this technology.

Course Description:

3 Graduate Credits - The course will consist of an introduction to computers, their operating systems, associated terminology, applications software packages (specifically word processors, spreadsheets, databases, graphics editors, multimedia presentation managers), the suite of telecommunications utilities, browsers, and resources that can be found on or utilized through the Internet. The course will cover the MS-Office 2000 / 2003 professional software package, strategies for utilizing Internet resources in classroom instruction and ethical / managerial issues associated with using computer technology with students. Class members will become acquainted with the tools that are available by using applications software packages to complete class assignments, thereby demonstrating the use of each of these tools. Students will learn to employ search techniques to locate information that will assist them in their study of the Internet and its resources. Students will employ a variety of these tools to prepare and present solutions to practical instructional problems.

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

1. Utilize terminology associated with computers and software.
2. Produce and manage documents with a word processor.
3. Create, edit, and apply formulas to a spreadsheet.
4. Build a database, construct queries and generate reports.
5. Create and edit graphics with a graphics editor (paint or draw program.)

6. Send e-mail with attachments.
7. Define relevant terminology associated with telecommunications and the Internet.
8. Describe the system requirements needed to access Internet resources at various levels.
9. Access remote computers and utilize their resources.
10. Identify and be able to make intelligent information - based choices when selecting an (ISP) Internet Service Provider.
11. Use appropriate search techniques to locate information on specific topics on the WWW.
12. Create a multimedia presentation which presents a lesson plan, a solution to an instructional problem, that would be utilized to provide instruction to a group of students in a computer lab. Students will also specify the necessary modifications that would have to be made to the lesson if only a single computer were available in the regular classroom. **
13. Develop a Web page to present some curriculum specific information to your students while integrating instructional technology resources into your curriculum. **
14. Develop lesson plans that formalize the integration of instructional technology into your curriculum and document your efforts to support student achievement of the Virginia Computer Technology SOLs. **

** Course objectives 12, 13 and 14 (listed directly above may be simultaneously accomplished by creating a Webquest. This process will be discussed and demonstrated in class.

Course Outline/Assignments:

Topics:

- Computer Terminology
- File Management
- Computer Hardware
- Operating Systems
- Application Programs (Software)
- Internet Telecommunications
- Lesson Planning for Technology Integration
- Building a Web Page to Enhance Instruction
- Giving Computer-based Presentations

MS-Office 2000 / 2003 assignments performed in class

- Word processing / Editing / Management (MS-Word)
- Spreadsheet / Grade book (MS-Excel)
- Presentation manager / Presentation production (MS-PowerPoint)
- Database / Creation / Query construction / Report generation (MS-Access)
- Graphics / Production and Editing (MS-Paint)

Telecommunications assignments performed in class

- Defining the Internet and becoming familiar with the tools and terminology
- E-mail (Yahoo Mail)
- Firefox / MS Internet Explorer Browsers
- Obtaining access through an ISP (discussion)

Multimedia Lesson 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.
- Present on a topic where you would use a computer lab to teach the lesson to the students.
- 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.

Note: All assignments are to be turned in on the date specified. Assignments are to be typed, double-spaced. 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.

Grading:

For the graduate credit course:

4.0 - 3.6 = A
 3.5 - 2.6 = B
 2.5 - 1.6 = C
 1.5 - Below = F

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.

Any comprehensive MS Office text such as:

Master Microsoft® Office 2000 VISUALLY

by Ruth Maran, Paul Whitehead, Marangraphics Development Group

Price: \$31.99

Availability: This title usually ships within 2-3 days.

Paperback - 680 pages Bk&Cd Rom edition (May 1999)

ISBN: 0764560506

available at Amazon .com and elsewhere

Required materials/accounts: A USB flash drive with at least 128 MB of free space. A Web-based e-mail account for use with assignments performed in class. Obtainable for 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.

Please see this URLs which will be used as a reference for this class.

<http://members.whro.net/~tspencer>

<http://members.whro.net/~tspencer/schedule2.htm>