TEED 589: MICROSOFT EXCEL FOR CLASSROOM TEACHERS -- ADVANCED

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COURSE CREDIT: 1 graduate credit

DATES, TIMES, NUMBER OF SESSIONS: Asynchronous, On-line & Email
January 7 – February 15, 2008 OR
February 1 – March 15, 2008
March 1 – April 15, 2008
6 lessons (one/week), 2.5 hrs/lesson

COURSE DESCRIPTION: This on-line course is designed to build on teachers’ intermediate level understanding of the Microsoft Excel spreadsheet software application and its power for classroom teachers. Teachers will learn to work with additional function tips, exponents, “watch formulas”, hyperlinks, pivot tables, advanced functions, relative and absolute values, Excel database tools, VBA, as well as advanced data collection, calculation and analysis techniques. This course is targeted for K-12 classroom teachers and other educators.

COURSE OBJECTIVES: Upon completion of this course, teachers will

- Learn the following: function tips and arguments, exponents, “watch formulas”, hyperlinks, pivot tables, inserting and/or constructing advanced functions for trigonometric and statistical data manipulation and analysis, additional work with relative and absolute references, variance, results analysis, logical values, functions/formulas and meaning, errors and troubleshooting, calculating and analyzing data, using Excel database tools and VBA.
- Learn strategies for using the Tablet PC, the digital projector and Excel to actively engage students in core content.
- Reflect on how they might be able to apply the various features in their role as a classroom teacher and building technology leader.
LESSONS:

- Additional work with function tips, arguments, exponentiation,
- Working with pivot-tables
- Relative and absolute references, variance, results analysis, logical values, functions/formulas and meaning, errors and troubleshooting
- Excel data base tools and VBA
- Advanced data collection, calculation and spreadsheet analysis
- Trigonometric and statistical data manipulation and analysis

TEXTS, READINGS, INSTRUCTIONAL RESOURCES:

Required Lessons:

Supplemental Reading:
Microsoft Office On-line Help Center

Optional Reading:
Lewis, Pamela (2006). *Spreadsheet Magic (2nd Ed.)*.
(Eugene, OR: International Society for Technology in Education)

COURSE REQUIREMENTS:

1. Class participation: Teachers are expected to read assigned lessons, complete and submit all practice documents and assignments in a timely fashion.
2. Electronic Portfolio: Teachers will be required to create an electronic portfolio that includes
   a. practice spreadsheets, charts, and assignments
   b. reflections
3. Submissions: Each student will post required practice documents, assignments, and reflections to the appropriate website in a timely manner
STANDARDS:

This course targets all six NETS-T (National Education Technology Standards) for Teachers: 

http://cnets.iste.org/teachers/t_stands.html

1) TECHNOLOGY OPERATIONS AND CONCEPTS.
   Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:
   > demonstrate continual growth in technology knowledge and skills to stay abreast of current and 
     emerging technologies

2) PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES.
   Teachers plan and design effective learning environments and experiences supported by technology. Teachers:
   > plan strategies to manage student learning in a technology-enhanced environment.

3) TEACHING, LEARNING, AND THE CURRICULUM.
   Teachers implement curriculum plans that include methods and strategies for applying technology to 
   maximize student learning. Teachers:
   > facilitate technology-enhanced experiences that address content standards and student 
     technology standards.
   > use technology to support learner-centered strategies that address the diverse needs of students.
   > apply technology to develop students' higher order skills and creativity.
   > manage student learning activities in a technology-enhanced environment.

4) ASSESSMENT AND EVALUATION.
   Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:
   > use technology resources to collect and analyze data, interpret results, and communicate findings 
     to improve instructional practice and maximize student learning.

5) PRODUCTIVITY AND PROFESSIONAL PRACTICE.
   Teachers use technology to enhance their productivity and professional practice. Teachers:
   > use technology resources to engage in ongoing professional development and lifelong learning.
   > apply technology to increase productivity

6) SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES.
   Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-
   12 schools and apply those principles in practice. Teachers:
   > model and teach legal and ethical practice related to technology use.

Enhancing your skills as a teacher using technology will enhance your ability to model 
effective technology use and to help your students meet the following newly refreshed 
NETS for Students:

http://cnets.iste.org/students/s_stands_07.html

1. Creativity and Innovation
   Students demonstrate creative thinking, construct knowledge, and develop innovative products and 
   processes using technology. Students:
   b. create original works as a means of personal or group expression.

4. Critical thinking, Problem-Solving & Decision-Making
Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources. Students

c. collect and analyze data to identify solutions or complete a project

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems and operations

GRADE DISTRIBUTION AND SCALE:

Summary of points
Practice documents 30%
Mid Term assignment 20%
Reflections 20%
Final assignment 30%

Grade structure Pass / Fail
80% minimum to Pass