

**Fresno Pacific University
School for Professional Studies
Center for Professional Development**

Course Syllabus

TEC 921 – Excel –Ultimate Information Tool

Instructor:

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Number of Units: 3

Grade Level: K-University Appropriate

Course Description

Available for Excel 2007, 2010, 2011, 2013 and 2016

We live in what is being described as the Information Age. As we are bombarded with data from all sides, each of us needs special tools to help make sense of all this information. Excel is a spreadsheet program that provides just those tools. Excel can be used to perform calculations using built-in formulas, everything from Standard Deviation to calculating your car payment. Excel can be used to calculate grades, chart data that would otherwise be overwhelming, or manage your next candy sale. If you are using a calculator, you need Excel. Excel even has text handling tools that you might find useful in the classroom as well as school-wide planning templates.

The focus of this course is how Excel can be used to increase student understanding and achievement. The hands-on exercises are tied to actual classroom and administrative activities including formulas and calculations, charting, Hyperlinks, linking, database functions, macros, and publishing on the web.

National Standards for Technology are addressed throughout this course as teachers apply skills and techniques learned from the course experiences to the current classroom assignment and the lessons they prepare for their students. In addition, these skills and techniques are then applied to content standards in the other subject areas.

Support is provided via email or phone. Projects and activities are via email for evaluation. Evidence of learning is tied directly to the stated objectives and is assessed via reflective journal entries, response to readings, and required projects in a curricular area.

Course Materials

Excel – The Ultimate Information Tool by Dennis Funk is used as the course textbook. It contains all the core learning material, readings, and activities.

Assignment Booklet – This booklet contains all the assignments that must be completed for this course.

Online Resources – located at <http://www.dlfunk.com>

Course Dates

This course is self-paced and students can enroll at any time. Students have one full calendar year to complete and return the assignments but no less than three weeks (1 week per credit)

Technology Requirements

To complete this course, course participants will need a computer with the appropriate version of Microsoft Office installed as well as an Internet connection and email account. Participants will need to be able to send and receive emails, know how to manage simple files, and have a basic understanding of the computer's operating system.

Course Requirements

Read the Instructional Manual and complete the following:

Assignments: Participants must complete all 34 assignments. Students will be given the opportunity to make the connection between assignments completed in the course and National Achievement Standards in the subject areas. Most often the assignment will result in a file that must be submitted. For sanity sake, I have broken down most assignments into smaller activities so it is easier to follow and simpler when it comes time to send the files for evaluation.

As you complete each assignment, you will also be learning more about the computer, honing your skills and internalizing concepts. The final assignments include a project and a staff development exercise.

The assignments contained in this course are closely aligned to the ISTE National Content Standards established for technology known as the National Educational Technology Standards (NETS) and Performance Indicators. Each assignment identifies the standards being addressed.

Whenever a computer function is determined to have a potential impact in other subject areas, participants will be encouraged to make the connection with national achievement standards in their subject areas.

Staff Development: Participants must identify one skill they have learned in Excel that has benefit in the classroom and teach a colleague.

Main Project: All students must demonstrate their learning in a self-selected Excel project related to their current teaching assignment. This project must address at least one identified National Achievement Standard in a subject area.

The following files must be returned for evaluation:

ADVANCED	PEER	SOLAR
CHARTING	PERSONNEL	SORT
DATABASE	PRACTICE	TEMPLATE
FILE1	PRACTICE2	TEMPLATE1
FILE2	PROJECT2	TEXT
GRADES	PROJECT3	TEXTFILE
GRAPHICS	PROJECT4	WORKDATA
HYPER	PROTECT	WORKSHEET
LINKING	SCHOOL	

All coursework is to be returned as an attachment to an email.

Support for the course is available by phone or email.

National Technology Standards

The assignments contained in this course are closely aligned to the ISTE National Content Standards established for technology known as the National Educational Technology Standards (NETS) and Performance Indicators.

The following technology standards are addressed throughout this course.

1. Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

Teachers:

- A. promote, support, and model creative and innovative thinking and inventiveness.
- B. engage students in exploring real-world issues and solving authentic problems using digital tools and resources.
- C. promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes.
- D. model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments.

2. Design and Develop Digital-Age Learning Experiences and Assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in NETS-S.

Teachers:

- A. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity.
- B. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress.
- C. customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources.
- D. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching.

3. Model Digital-Age Work and Learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.

Teachers:

- A. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.
- B. collaborate with students, peers, parents, and community members using digital tools and resources to support student access and innovation.
- C. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats.
- D. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning.

4. Promote and Model Digital Citizenship and Responsibility

Teachers understand local and global society issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

Teachers:

- A. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.
- B. address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources.
- C. promote and model digital etiquette and responsible social interactions related to the use of technology and information.
- D. develop and model cultural understandings and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools.

5. Engage in Professional Growth and Leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

Teachers:

- A. participate in local and global learning communities to explore creative applications of technology to improve student learning.
- B. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others.
- C. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning.
- D. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community.

Primary Learning Objectives

1. Provide participants with the skills necessary to utilize Excel in their classrooms.
2. Demonstrate the impact Excel can have on instruction and learning.
3. Provide some background on how classrooms are going to change in the future.
4. Give participants a new tool they can use to help students achieve.

In addition, students will:

- be able to apply technology to facilitate a variety of effective assessment and evaluation strategies.
- increase their ability to plan and design learning environments and activities supported by technology.
- be able to apply the use technology to enhance their productivity and professional practice.
- be able to implement curriculum plans that include methods and strategies for applying technology to maximize student learning.
- recognize the social, ethical, legal, and human issues surrounding the use of technology in our schools.
- consider the role technology can play in supporting the acquisition of language and the development of literacy skills.
- expand their use of technology in teaching, in that they will begin to try new things, take risks, and be more innovating in their teaching.
- identify new ways of doing things and share it with a colleague.
- identify the relationship between skills can techniques learned in this course with National Technology Standards.
- apply the technical skills and competencies they acquire in this class to achievement standards in the subject areas.

Evidence of Learning

There are two types of assignments in this coursework and each will be graded accordingly.

1. Skill Demonstration Activities

These assignments will be evaluated based on the level of completion. In these assignments the students demonstrate the fact that they understand the skill being presented and can show that they can apply that skill with the assigned activity. Some assignments are graded simply as completed or not completed and others are graded on a completion rubric.

2. Subjective Assignments

These assignments are to cause the student to think, to contemplate the issue at hand and how it can impact the 21st Century classroom, and how Excel might be utilized to increase achievement in any subject area. These assignments are evaluated based on the connections they make with their current teaching situation and the demonstration that they have truly thought about the topics presented.

Schedule of Topics

- Introduction to the Class
- What is a Spreadsheet
- The Excel Screen
- Entering Data
- Working With Text
- Working with Values
- Calculations
- Formulas
- Fill
- Working with Cells
- Worksheets
- Working with Toolbars
- Printing Spreadsheets
- Working with Names
- Managing Data
- Linking
- Options/Preferences
- Draw Tools
- Advanced Formulas
- Charting Data
- Excel as a Database
- Annotating Cells
- Using Templates
- Protecting your Spreadsheet
- Working Collaboratively
- Using Macros
- Excel in Education

Grading

Assignments	50%
Project	35%
Journal	15%

Total Scores determine the final grade:

A or Credit	90% - 100%
B or Credit	80% - 89%
No Credit	79% or below

In order to earn a letter grade of A, 35% of the grade will be based on the completion of the Main Project in that it is a testament to the effort put into the class and is a measure of increased learning on the part of the student. The other items will be reduced to reflect 65% of the grade.

Instructor/Student Contact

Contact between Student and Instructor will take place via email, phone, and discussion board provided by the Instructor. Students will receive a welcoming email by the Instructor requesting general information prior to beginning the course. Students are required to email the Instructor with any issues they encounter along the way. Students are required to exchange a minimum of three emails with the instructor during the course. Three assignments are included in the Assignment Manual directing students to respond to questions. The Instructor will reply adding additional insights to the student response. And, finally, several videos are included on the CD provided to the students which contain comments and ideas by the instructor.

References

Does it compute? The relationship between educational technology and student achievement in mathematics, Wenglinsky, H. (1998). Princeton, NJ <ftp://ftp.ets.org/pub/res/technolog.pdf>

Factors influencing the effective use of technology for teaching and learning: Lessons learned from the SEIR♦TEC intensive site schools (2nd ed.). Byrom, E., & Bingham, M. (2001). Durham, NC : SouthEast Initiatives Regional Technology in Education Consortium. <http://www.seirtec.org/publications/lessons.pdf>

Fostering the use of educational technology: Elements of a national strategy. Glennan, T. K., & Melmed, A. (1995). Washington, DC <http://www.rand.org/publications/MR/MR682/>

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The New Basics: Education and the Future of Work in the Telematic Age - David Thornburg. Association for Supervision and Curriculum Development, 2002.

Potential for Technology in the Pursuit of Knowledge – Willis D. Copeland, Ph.D. California Public Schools Forum, Vol. 2, Spring, 1987

PowerShift, Knowledge, Wealth and Violence at the Edge of the 21st Century, Alvin Toffler, 1990, Bantam Books, New York

Research on technology and teacher education: Current status and future directions, Jerry Willis, Ann Thompson and William Sadera, Educational Technology Research and Development, Volume 47, Number 4, December 1999

School Reform in the Information Age, Howard D. Mehlinger, Ph.D, Phi Delta Kappan, Vol. 77, 1996

Technology standards for school administrators Technology Standards for School Administrators (TSSA) Collaborative. (2001).. <http://cnets.iste.org/tssa/pdf/tssa.pdf>

Technology Standards for Teachers (2000) <http://www.iste.org>

***The Impact of Education Technology on Student Achievement: What the Most Current Research Has to Say*, John Schacter, Ph.D, Milken Family Foundation, 2/1/1999**

The Third Wave, Alvin Toffler, 1980, Bantam Books, New York

A Whole New Mind: Moving from the Information Age to the Conceptual Age, Daniel H. Pink, Riverhead Books, 2005

Articles Online

<http://www.newhorizons.org/trans/goerner.htm> “Rethinking Education in Light of Great Change”, Dr. Sally J. Goerner, 2002

<http://www.iste.org/source/orders/excerpts/spred2.pdf> (*Spreadsheet Magic* by Pamela Lewis, 2006

<http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te800.htm> (Using technology to increase student achievement - 2005)

Links to Internet Resources

<http://www.microsoft.com/education/lessonplans.mspix> (lesson plans in the subject areas)

<http://www.microsoft.com/education/OfficeXPTutorialPac.mspix> (Office XP in the classroom)

<http://www.microsoft.com/education/teachers/default.aspx> (Microsoft website for Educators)

http://www.internet4classrooms.com/on-line_excel.htm (Ideas for using Excel in the classroom)

<http://www.ncrel.org/sdrs/areas/te0cont.htm> (North Central Regional Education Laboratory – Technology in Education issues addressed)

<http://www.microsoft.com/education/managinggrades.mspix> (Managing grades with Excel)

Policy on Plagiarism

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty, including plagiarism, will be handled according to the procedures set forth in the Fresno Pacific University Catalogue.

University Information

Graduate level course work reflects Fresno Pacific University's Desired Student Learning Outcomes as it applies to professional development to demonstrate the following:

- Oral and written communication in individual and group settings
- Content knowledge, and application of such knowledge in the student's area of interest to affect change
- Reflection for personal and professional growth
- Critical thinking
- Cultural and global perspectives to understand complex systems
- Computational/methodological skills to understand and expand disciplines, including an understanding of technology systems