I. OVERVIEW
The following information will appear in the 2009 - 2010 catalog

AGEC-225 Agriculture Computer Applications 3 Units

Computer use in the agribusiness work place, with emphasis on using software to solve agribusiness accounting problems, record keeping, creating sales presentations, and authoring business reports. Field trips might be required. Course is applicable to the associate degree.

II. LEARNING CONTEXT
Given the following learning context, the student who satisfactorily completes this course should be able to achieve the goals specified in Section III, Desired Learning:

A. COURSE CONTENT

1. Required Content:

   a. Logic / Product Evaluation
      i. Orientation to equipment and set up
      ii. Terminology; specifications, components and peripherals
      iii. Product evaluation based on criteria
      iv. Create an argument for chosen system

   b. AgriBusiness Communication
      i. Agricultural Resources on the Internet
      ii. Business Letters
      iii. Mailing lists and form letters
      iv. Advertising and marketing materials
      v. Presentations

   c. Mathematics & Data Analysis - Spreadsheets
      i. Solving volume, area, and ratios with given formulas.
      ii. Finding averages, high/low selling items, median, mean, and counts with given data.
      iii. Determination of data trends by using charts

   d. Programming / Computer Language
i. Agricultural production, business planning, and analyses application design.

ii. Agricultural accounting application design.

iii. Other agricultural business database applications.

2. **Recommended Content:**

   a. **Hardware**

   i. Identification of internal computer components

   ii. Assembly of computer components

   iii. Safety and Static Electricity considerations

B. **HOURS AND UNITS**

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C. **METHODS OF INSTRUCTION (TYPICAL)**

   *Instructors of the course might conduct the course using the following method:*

   1. Information and concepts presented through lectures and demonstrations.

   2. Small group discussion coupled with interactive computer use reinforcing lectures and demonstrations.

   3. Practice on demonstration software.

   4. Examination of representative word processing, spreadsheet, and database programs.

   5. Presentation by industry experts in regard to agribusiness computer applications.

   6. Use of current telecommunication systems.

D. **ASSIGNMENTS (TYPICAL)**

1. **EVIDENCE OF APPROPRIATE WORKLOAD FOR COURSE UNITS**

   *Time spent on coursework in addition to hours of instruction (lecture hours)*

   a. Daily Home work assignment that reinforces the lecture component, approximately 1 hour to complete (total 30 hours)

   b. Bi-Weekly Section Projects:

   i. **Product Evaluation Paper (12 hours per term)**

      Students are presented with a software specifications, and present computer system that does not meet requirements.
ii. Multimedia Presentation (12 hours per term)
Students are given an target audience, and must research, write, create and present 5-10 minute a multimedia PowerPoint presentation.

iii. Mass Mailing Communication (12 hours per term)
Students, given a target audience and business type will develop a sales catalog using mail merge techniques to include at least 50 items, with prices, descriptions, and images.

iv. Data Analysis (12 hours per term)
Students, given source data, will create a spreadsheet to analyze sales data, by calculating statistical figures and identifying trends. Then present the findings in a business memo format with explanation of findings and supporting documentation.

v. Business Calculator (12 hours per term)
Supplied with a business, data and problem, students will use a spreadsheet to create a calculator to solve this and other problems if the data is changed. Then write a user manual to accompanying the file.

vi. Database Retrieval (6 hours per term)
Given an existing database and business problem, create queries and reports to pull data for analysis.

vii. Database Creation (12 hours per term)
Students, given a business need, will research, design, and create an original database for data collection, retrieval and analysis.

2. **EVIDENCE OF CRITICAL THINKING**

Assignments require the appropriate level of critical thinking

Bi - weekly projects all involve critical thinking, research, and data or business analysis. Answers are not derived from books, but rather they must research and find the answers from an assortment of data. A few examples:

a. Product evaluation - students are given software specifications, then must "shop" on the internet to find two systems that meet the requirements. Following this, they must prepare a report that describes the systems, offers their recommendations, and gives arguments as to why that system was chosen.

b. Data Analysis - Given data, such as 5 years of sales records from a winery, students will create pivot tables to determine a variety of sales statistics and trends. Then supply their findings in a business memo with accompanying charts, supporting data, and conclusion.

c. Business Calculator - students are given a business need and problem, such as finding the mixture of feeds to use for various types of poultry to reach a desired nutrient level. Then using excel, the students create a business calculator that determines not only the feed for the one case, but can be applied to any variety of cases. A user interface is also created and supporting user manual likewise created.

E. **TEXTS AND OTHER READINGS (TYPICAL)**


2. Other: Online collection of tutorials, reviews, blogs, and articles supplied by the instructor.

III. **DESIRED LEARNING**

A. **COURSE GOAL**
As a result of satisfactory completion of this course, the student should be prepared to:

Apply computer skills relating to agricultural functions towards internet research, data analysis, mathematics, and business communications.

B. STUDENT LEARNING GOALS
Mastery of the following learning goals will enable the student to achieve the overall course goal.

1. Required Learning Goals
Upon satisfactory completion of this course, the student will be able to:

   a. Apply spreadsheets to calculate business mathematical problems such as volume, area, ratio, and proper mixture proportions.

   b. Evaluate, predict, report and defend the findings of basic statistical calculations and trends from supplied agricultural data, supported by formulas, graphs, and charts.

   c. Evaluate and compare computer hardware systems against minimum requirements, then propose a choice, and support by writing.

   d. Create an original application for data collection and analysis, which can solve a business need such as calculating feed mixtures or price selling points. Students will also be able to create end user documentation describing how to employ their application.

   e. Demonstrate how to reach a specific market by preparing focused sales communications, advertising pieces, and multimedia sales presentations.

   f. Evaluate and identify computer hardware components, and demonstrate their assembly.

IV. METHODS OF ASSESSMENT (TYPICAL)

A. FORMATIVE ASSESSMENT

   1. Daily graded lecture participation.

   2. Daily home work assignments.

   3. Weekly quizzes to measure understanding.

   4. Weekly topic surveys for student feedback and understanding

B. SUMMATIVE ASSESSMENT

   1. Bi-monthly section tests

   2. Bi-weekly project and paper submissions.

   3. Final Exam