

**Course Title: IST106 Spreadsheet Software**

**Course Leader: Paul McAllister**

**Expected Learning Outcomes for IST106 Spreadsheet Software**

- Use Excel software in a variety of business and organizational settings to make calculations on financial and statistical data and present the results in a manner that is informative, documented, and useful to the reader.

**Assessment**

(How do students demonstrate achievement of these outcomes?)

The college changed to Office 2016 and IST106 reflected that change with Excel 2016. This course covered 12 chapters, with each chapter utilizing 3 graded exercises. The three exercises included a simulation exercise, a chapter quiz, and a practical grader project. Both the simulation exercise and the grader project implement require hands-on use of the commands covered in each of the 12 chapters. The activities provide a valid assessment of the student's skills. Students have access to their textbook and the internet for the three graded exercises for each chapter. The exercises are not timed. The simulation exercises, chapter quizzes, and practical grader projects are scored by course management software (MyITLab by Pearson).

There are 12 projects required with one from each of the chapters. Students download and modify Excel worksheets and accompanying files (.txt, .xml, .acdb) where indicated. Students follow specific instructions to modify the worksheets using Excel 2016 and implementing the specific concepts and functions from the current chapter. Some instructions require implementation of skills and techniques from previous chapters. Students can submit the project 2 times, where only the highest grade from a submission counts. Over the course of the semester, students consistently received lower grades for the grader projects than either the chapter quizzes or the Simulation exercises. Students tended to skip ungraded "practice" exercises, although the students that consistently completed the practice exercises achieved higher grades. During the semester, I began reviewing the basic practice exercises as well as lecturing about specific topics to introduce students to the basic concepts of each chapter.

This course uses course management software that comes with the MyITLab textbook. There are online Simulation trainings that students are required to work through. They may complete the trainings up to three times for the highest grade. As for the projects, they have two attempts to raise their grade and only the highest-grade counts. For chapter quizzes, students only have one opportunity.

This class could be done as either an online or hybrid format. While some of the students did very well with minimal instructor aid, some of the students required instructor assistance for a successful outcome. Students commented on the scarcity of well-trained Excel tutors at The Learning Support Center. I often spent the last portion of the class time working with individual students that struggled with concepts that were frequently not shared by others in the class. In the latter part of the semester, some students that were more proficient would help others in need of assistance. To provide more availability for the students, I opened the class time to every week (except one) instead of the original every other week schedule for the students that seemed to need

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more hands-on instruction. Additionally, I met with one of the students in the LSC one evening to tutor him.

### Validation

The course is taught using a Microsoft Certified Application Specialist approved courseware.

Microsoft Office Specialist Exam standards were reviewed for course content to be sure they mapped to the outcomes in this course.

In place of taking this course, the student may take the MOS Expert Excel certification exam. Upon receiving their certification and show the certification to the instructor, they can apply for 3 credits for this course.

### Microsoft Office Specialist Exam Map

Objective
1.1. Insert data using AutoFill
1.2. Ensure data integrity
1.3. Modify cell contents and formats
1.4. Change Worksheet Views
1.5. Manage worksheets
2.1. Format worksheets
2.2. Insert and modify rows and columns
2.3. Format cells and cell content
2.4. Format data as a table
3.1. Reference data in formulas
3.2. Summarize data using a formula
3.3. Summarize data using subtotals
3.4. Conditionally summarize data using a formula
3.5. Look up data using a formula.
3.6. Use conditional logic in a formula
3.7. Format or modify text using formulas
3.8. Display and print formulas
4.1. Create and format charts
4.2. Modify charts
4.3. Apply conditional formatting
4.4. Insert and modify illustrations
4.5. Outline data
4.6. Sort and filter data
5.1. Manage changes to workbooks
5.2. Protect and share workbooks
5.3. Prepare workbooks for distribution
5.4. Save workbooks
5.5. Set print options for printing data, worksheets and workbooks

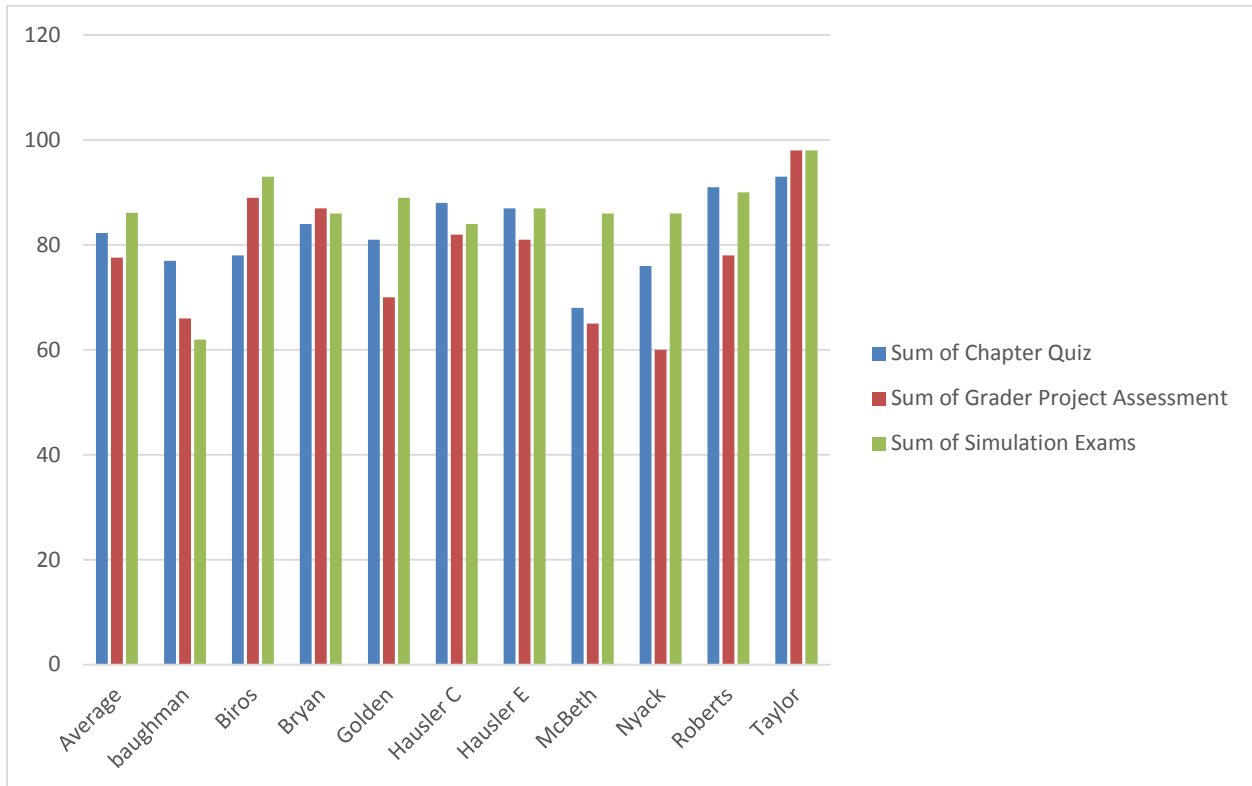
**Results**

(What does the data show?)

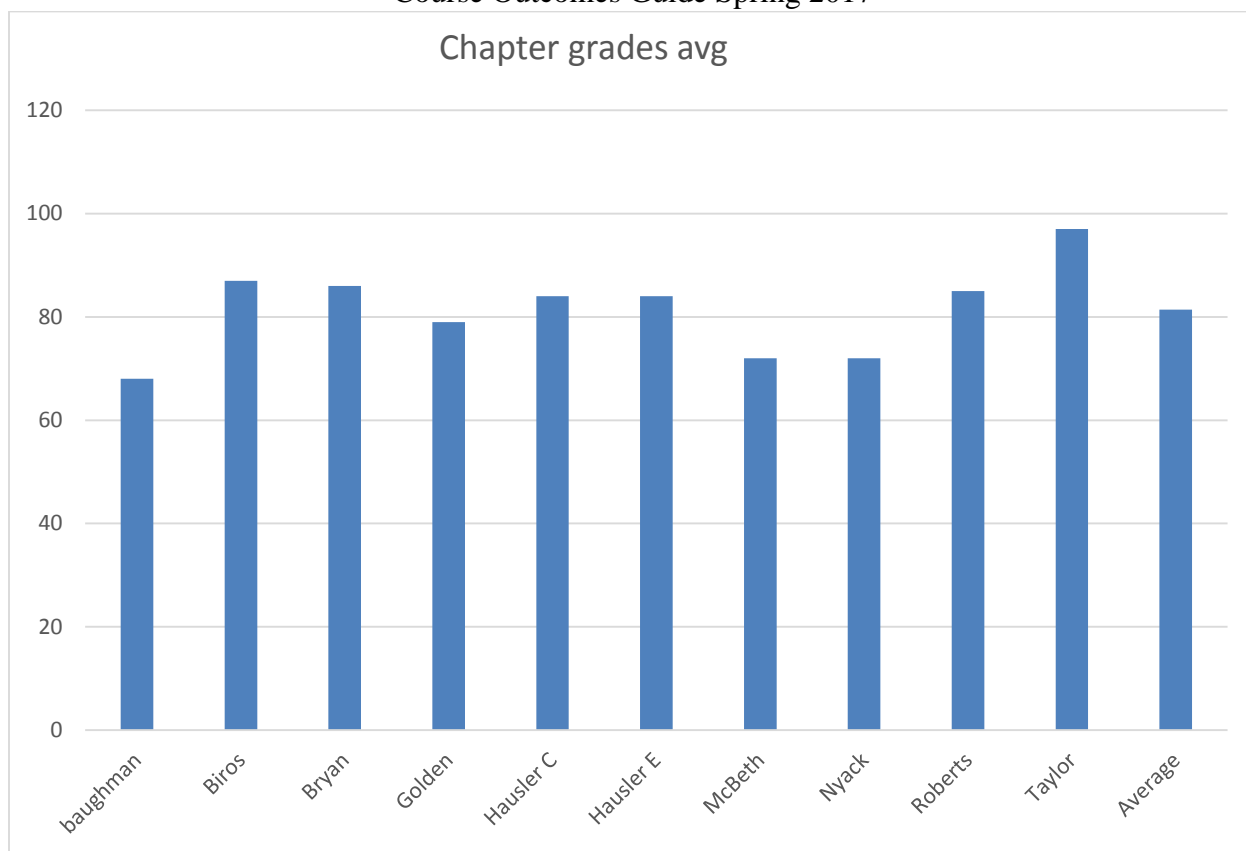
In general, the practical application graded exercises were lower scores for most of the students compared to the scores for the chapter simulation exercises and the chapter quizzes. Many of the students would have had a lower letter grade for the course without the simulation exercises and chapter quizzes averaged in to the grade.

The practical application exercises were more difficult for many of the students because there were instructions that required independent thinking or research. Although these exercises simulate a realistic working environment use of Excel, they did require more than either repeating exercises demonstrated for the simulations or memorization for the quizzes.

The students that consistently did the ungraded practice exercises in preparation for the “Grader Projects” had either the highest grades or the most improvement. Three students that routinely did the practice exercises received a letter grade of an “A” and one student who had a failing grade at the mid-point of the semester raised his final grade to a “C” by the end of the semester. He began doing the practice exercises at about the midpoint of the semester.



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The average of the chapter grades at the end of the semester was a generally good indicator of performance on the final exam. Some of the students participated in the extra credit project which enabled several students to elevate their final grade to the next letter grade. The extra credit project was designed to help the students prepare for the final exam. Most of the students that did well on the extra credit project did well on the final, but the students who performed well during the semester were the students that did the extra credit project.

### **Budget Justification**

Tutoring hours need to be increased. There needs to be an Excel person part-time personal available in the Learning Success Center. Students frequently require help with specific concepts in excel as well as explanations of basic mathematics principles or basic concepts of a loan.