

## Microsoft Excel in the Classroom

### Course Syllabus

2 Graduate-Level Continuing Education Units, Brandman University

**Course Instructor and Authors:** Donny Wise has worked in aerospace and technological companies in addition to teaching in academia. He is known for providing very clear, methodological approaches to technology instruction and application, while being inspiring, as well. He is passionate about closing the opportunity and achievement gaps for students by empowering and equipping teachers with relevant, practical, research-based pedagogy and tools.

**Course Objective & Learning Goals:** This course teaches educators how to effectively use Microsoft Excel to organize and analyze data that guides instruction, to efficiently maximize productivity through this technology tool. Educators also learn how to teach students to use Excel for data entry and analysis, and college- and career-readiness.

**Lesson 1: Getting Started with Microsoft Excel** This lesson provides an inspiring tour of all the major features of Excel so that educators learn the wide variety of classroom opportunities that are available with Microsoft Excel. In introductory video, participants will be shown how to teach Microsoft Excel with a minimum weekly access to a computer lab. Teachers will learn how to use Excel for multiple purposes, such as keeping a roster, calculating/maintaining grades, analyzing financial information, and compiling and charting data.

**Lesson 2: Managing Columns Rows and Cells** In this lesson, participants will see a demonstration of how to use the most critical constructs of Microsoft Excel which include Columns, Rows and Cells. These are the A, B, C's of Excel. The key item of learning in this lesson is the skill of being able to enter data into cells and also manage, move, delete and adjust the columns and rows.

**Lesson 3: Basic Formulas in Excel** This lesson introduces one of the most powerful features in Excel: Formulas. By being able to use formulas in Excel, Excel becomes a handy calculator, a data organizer, and a data presenter all in one. After being able to learn how to use Excel formulas, teachers can easily calculate student grades or train their students to calculate financial numbers.

**Lesson 4: Advanced Formulas in Excel** Educators in each grade can use Excel to help students in each of the math domains by using Excel's more advanced features. In this lesson, educators will learn how to format the formulas in Excel in the proper way in order to calculate more complex problems, as well as how to teach students to use these features of Excel for academic success, adult life-preparedness and career-readiness. The most critical part of this lesson is learning the order of operations for a formula.

**Lesson 5: Excel Charts** : In this lesson, participants learn to use charts to display series of numeric data in a graphical format. Representing data in graphical format make it easier to understand large volumes of data and the relationship between different series of data. Plotting data into various chart types available in Excel is taught. Graphic displays of information are appropriate for differentiated instruction for English learners and struggling readers, as an additional means of communication that is less linguistically dependent. GATE students can be granted advanced, enriched opportunities through these features, as well.

**Lesson 6: Practical Application of Excel Functions** In this lesson, content in the previous lessons will come together in the context of a practical example. Ultimately, utilizing the features of Excel is for the sake of addressing real-world scenarios, issues, problems, numerical analysis, and real-life projects.

**Lesson 7: A Project-based Approach** In this lesson, participants learn how to guide students to conduct research, gather information from the internet and present the information in a graphical format within the context of a core academic content area, to enrich learning; research shows such a multi-modal, real-world approach heightens student motivation and success in the learning process.

