ITE 140 (D01A)

Spreadsheet Software

Course Syllabus

Instructor	Jeffrey Elkner
Sessions	Fall 2022
Meeting Days	B Day
Times	8:00 - 9:24 am
Location	Arlington Career Center Room 512
Contact	jde232@email.vccs.edu

Course Description:

Provides a working knowledge of a commercial spreadsheet package to include designing a variety of worksheets, preparing graphs, working with database query, macro writing, and menu techniques. 3 Credits.

General Course Purpose:

This course is designed to provide students with a working knowledge of a major microcomputer spreadsheet program. Emphasis is on the functional rather than the technical approach to understanding, using, and managing electronic spreadsheets.

Course Prerequisites/Co-Requisites:

Prerequisite: Students must be able to read and write at a college level

Course Objectives:

Upon completing the course, the student will be able to:

1. Design and create spreadsheets
2. Effectively use functions and formulae within spreadsheets
3. Present data using charts
4. Create and use formatting that enhances the usability of charts and spreadsheets
5. Use macros as a time-effective way to prepare and maintain spreadsheets
6. Effectively use decision analysis tools within spreadsheets

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Major Topics to be Included:

1. Designating and working with ranges
2. Applying functions and formulae such as HLOOKUP and VLOOKUP
3. Formatting spreadsheets, including conditional formatting
4. Using graphics to enhance the visual appeal of spreadsheets
5. Executing file operations, including printing and publishing
6. Working with charts
7. Working with multiple worksheets and workbooks and consolidated spreadsheets
8. Working with ranges, lists, and tables
9. Working with Pivot Tables and Pivot Charts
10. Performing What-If Analyses
11. Using a spreadsheet as a database; using data tools to manipulate data
12. Working with features than enable collaboration
13. Using Macros and Visual Basic for Applications
14. Importing data from other application programs such as MS-Word and MS-Access

Student Outcomes:

Designating and working with ranges

- Selecting cells, images, and charts
- Performing Move, Copy, and Paste operations
- Using reviewing tools such as spell check
- Using Find and Replace features for content and formats
- Inserting special characters and symbols
- Navigating through a data range
- Printing a data range
- Creating and using range names

Applying functions and formulas

- Creating formulae using the SUMIF, COUNTIF, MATCH and INDEX functions
- Moving and copying functions and formulae
- Using operator precedence in formulae
- Using relative, absolute and mixed references
- Using math and statistical functions
- Using logical and financial functions such as PMT, FV, and PV
- Using text functions
- Using nested functions such as IF
- Validating data
- Auditing worksheet formulas

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<u>Formatting spreadsheets, including conditional formatting</u>

- Changing fonts and page setup
- Using AutoFill, AutoFormat and series
- Formatting columns and rows
- Merging cells and working with cell alignment
- Applying borders and shading
- Adding headers and footers
- Applying conditional formatting

<u>Using graphics to enhance the visual appeal of spreadsheets</u>

- Inserting and formatting Clip Art
- Inserting and formatting Pictures
- Inserting and formatting SmartArt
- Inserting and formatting WordArt
- Inserting and formatting Shapes

<u>Executing file operations, including printing and publishing</u>

- Saving a worksheet using the default type or different format
- Using page setup features to change settings
- Creating and deleting manual and automatic page breaks
- Previewing and printing or publishing a worksheet

<u>Working with charts</u>

- Analyzing worksheet data in order to apply appropriate chart type
- Creating charts
- Editing chart data and objects
- Moving and copying charts

<u>Working with multiple worksheets and workbooks</u>

- Renaming and rearranging worksheet tabs
- Moving and deleting worksheets
- Grouping and ungrouping worksheets
- Moving and copying worksheet groups
- Managing the workspace
- Using links with multiple worksheets and workbooks
- Creating 2-D and 3-D references

Working with Ranges, Lists, and Tables

- Sorting a range/list/table
- Applying Auto filter to a range/list/table
- Applying an Advanced filter to a range/list/table
- Using AutoFilter to select data based on content and format
- Applying subtotals to a list of data
- Creating custom views

Working with PivotTables and PivotCharts

- Creating and manipulating PivotTables
- Creating and manipulating PivotCharts
- Applying Trendlines to a PivotChart

Performing What-If Analysis

- Using Goal Seek to perform a What-If Analysis
- Using Solver to find the optimal solution for a complex problem
- Using the Scenario Manager to analyze data involving multiple scenarios
- Using the Scenario Manager to create Summary Reports and Scenario PivotTable
- Creating One Variable and Two Variable Data Tables

Using a spreadsheet as a database and using data tools to manipulate data

- Applying proper design of a spreadsheet database
- Manipulating columns of data
- Filtering and extracting data
- Sorting data
- Applying data validation features within a spreadsheet database
- Finding and eliminating duplicate records

Working with features that enable collaboration

- Protecting worksheets and workbooks
- Sharing workbooks
- Using tools such as Tracking Changes and adding Comments
- Creating and using Templates
- Uploading a workbook to SkyDrive

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Using Macros and Visual Basic for Applications

- Recording and executing a macro
- Viewing and printing the VBA code for a macro
- Applying appropriate security levels within Excel to control macro execution
- Customize the Quick Access Toolbar with a Macro button
- Add Form Controls and ActiveX Controls
- Edit properties of Form Controls and ActiveX Controls

Interchanging data with other application programs

- Using Object Linking and Embedding to share data between worksheets and files
- Creating and editing Hyperlinks
- Merging data with other documents

EXTRA TOPICS (optional)

- Macro programming using the Visual Basic language

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Time Allocation per Topic

In order to standardize the core topics of ITE140 so that a course taught at one campus is equivalent to the same course taught at another campus, the following student contact hours per topic are required. Each syllabus should be created to adhere as closely as possible to these allocations. Of course, the topics cannot be followed sequentially. Many topics are taught best as an integrated whole, often revisiting the topic several times, each time at a higher level. There are normally 45 student-contact-hours per semester for a three credit course. (This includes 15 weeks of instruction and does not include the final exam week so 15* 3 = 45 hours. Sections of the course that are given in alternative formats from the standard 16 week section still meet for the same number of contact hours.) The final exam time is not included in the time table. The category, Miscellaneous, leaves ample time for an instructor to tailor the course to special needs or resources.

Topic	Hours	Percentage
Designating and working with ranges	2	4%
Applying functions and formulae	4	9%
Formatting spreadsheet, including conditional formatting	3	7%
Using graphics to enhance the visual appeal of spreadsheets	1	2%
Executing File operations, including printing and publishing	1	2%
Working with charts	2	4%
Working with multiple worksheets and workbooks	3	7%
Working with ranges, lists, and tables	3	7%
Working with Pivot Tables and Pivot Charts	3	7%
Performing What-If Analyses	3	7%
Using a spreadsheet as a database; using data tools to manipulate data	3	7%
Working with features that enable collaboration	2	4%
Using Macros and Visual Basic for Applications	3	7%
Interchanging data with other application programs	2	4%
Assessment Activities	5	11%
Miscellaneous	5	11%
Total:	**45**	**100%**

Required Instructional Materials:

- **Python for Excel: A Modern Environment for Automation and Data Analysis** by Felix Zumstein (Available through your NVCC O'Reilly for Higher Education)

Course Credit: 3 Credits

Policies:

I.   Grading Policies
   a. Grading Scale
       A= 100 - 90   B= 89 - 80   C= 79 - 70   D=69 - 60   F= 59 and below
   b. Students will receive a weekly holistic letter grade that will incorporate classwork, quizzes, tests, projects, and presentations. These weekly evaluations can be challenged by the student, *but only during the week immediately following when the evaluation is given*.
   c. The average of the weekly evaluations will make up 70% of the final grade, with the course final exam making up 30%.
   d. In cases where district grading policies conflict with college grading policies, the high school and college grades may differ; this may include assignment/test retakes, extended assignment due dates, capped minimum grade allowed, among other such district policies.
   e. It is important that students check their final NOVA grades as soon as the course is completed.

II.   Course Policies
   a. Academic Integrity
       i. The College does not tolerate academic dishonesty. Students who are not honest in their academic work will face disciplinary action along with any grade penalty the instructor imposes. Procedures for disciplinary measures and appeals are outlined in the Student Handbook (http://www.nvcc.edu/students/handbook/). In extreme cases, academic dishonesty may result in dismissal from the College.
       ii. Plagiarism: is the act of appropriating passages from the work of another individual, either word for word or in substance, and representing them as one's own work. This includes any submission of written work other than one's own. In short, plagiarism means using the exact words, opinions, or factual information from another person without giving that person credit. Students who are not honest in their academic work will face disciplinary action along with any grade penalty the instructor imposes. For more information about student academic integrity: https://www.nvcc.edu/curcatalog/policies/integrity.html
   b. Attendance Policy
       Regular attendance is essential for success in Web Page Design I. Absences in which work is not made up either in the week in which they occur of the following week will be reflected in the weekly cumulative grade.
   c. Disabilities
       Students with disabilities are required to contact NOVA's Office of Disability Support Services (DSS) to discuss possible accommodations. All information is kept confidential and may increase your chances of success in the academic setting. If accommodations are agreed upon, student

will receive a Memorandum of Accommodation (MOA) by DSS. For more information about NOVA's DSS office: https://www.nvcc.edu/disability-services.

d. Self-Advocacy

i. Students are expected to reach out to their instructor if they do not understand content or expectations.

ii. College instructors and other college personnel will not talk with a parent without the permission of and presence of the student. The conversation is between the administrator / faculty member and the student. The parent's role is to listen, give moral support, and summarize information and agreements if needed.

iii. Dual enrolled students have access to full NOVA campus services including tutoring, library, and counseling services; student resources are found here: http://www.nvcc.edu/students/index.html

e. Office of Wellness and Mental Health

During your time at NOVA, you may experience challenges including struggles with academics, finances, or your personal well-being. NOVA has support resources av
ailable. If you are seeking resources and support or if you are worried about a friend or classmate: https://www.nvcc.edu/wellness/index.html

f. Course Drop and Withdrawal Policy

i. Please note two important dates related to your enrollment in a course:

• The *drop date* (also known as census date) for a course is the last day to drop a course
• The *withdrawal date* is the last day to withdraw without grade penalty

Dropping a course before the drop date will not appear on your NOVA transcript. Dropping a course after the drop date and before the withdrawal date will result in a 'W' grade appearing on your transcript. To identify these dates for your dual enrollment course, please see below on the 'Course Schedule' chart or log into your myNOVA account and SIS.

ii. Withdrawal Process

● Dual enrolled students are responsible for requesting to withdraw (Form 125-03) from their DE classes, using the following link: https://dashboard.nvcc.edu/Forms/125-03

● Dual enrolled students will use their myNOVA credentials to access the withdrawal form and will select one or more enrolled DE classes to withdraw.

● The withdrawal form is then routed to the assigned DE instructor and the Office of Dual Enrollment for review and approval.

● Check your VCCS email for the status of your request.

g. Communication

Students are likewise required to use their VCCS email accounts (_____@email.vccs.edu) to communicate with college personnel and should check their email accounts regularly.

h. Title IX

Title IX is a civil rights law that prohibits discrimination on the basis of sex in educational programs, activities, admission and employment. Complaints of sex-based discrimination, sexual violence, domestic violence, and sexual or gender-based harassment are governed by the Title IX Policy. For more information about Title IX or to make a report: https://www.nvcc.edu/titleix/index.html.

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III. **Course Schedule**

    a. **Critical Course Dates**

Course Start Date	Monday, August 29, 2022
Course Drop Date	Tuesday, September 20, 2022
Course Withdrawal Date	Monday, November 28, 2022
Final Exam Date	Week of January 23 to 27, 2023
Course End Date	Friday, January 27, 2023

    b. **Final Exam Date:** *The final exam will be given during the last week of class, between Monday, January 23 and Friday, January 27.*