CIS 112 - Integrated Computer Applications

4 credits; 3 lecture hours; 2 lab hours
Prerequisites: CIS 110 Computer Applications or CTN 110 Introduction to Information Technology
Electives: Satisfies Technology, Computer, Free
Proficiencies: None
Attributes: Computer Science Elective, Free Elective, Science Technology Intensive, Technical Elective, Technology Elective

COURSE DESCRIPTION: This is a comprehensive course in the use and application of spreadsheets. Students will develop projects using spreadsheets for typical business uses. Topics covered are spreadsheet design including formulas, data tables, multiple sheets, macros, charts, and integration with other office applications. Students must be prepared to use a Windows environment. Students will have access to this platform in all the campus labs.

COURSE OBJECTIVES: The purpose of this course is to develop an in-depth understanding and practical knowledge of Excel--the most frequently used software applications and to enable students to effectively use a personal computer in the home or on the job. Upon successful completion of this course the student's will:

Demonstrate an advanced skill level with electronic spreadsheets through Microsoft Excel

- Use the Sum, Average, Median, Min, Max, Countif, and IF functions.
- Restore error messages, by nesting the IFerror function
- Use NestedIF functions
- Use/Create Financial Functions.
- Use Goal Seek to Perform What-If Analysis
- Create Data Tables
- Define Range Names and use them in Formulas/Functions
- Create and use Lookup Functions
- Create Data Validations
- Create Excel templates
- Protect worksheets from user error
- Resolve error messages with the nested iferror
- Import various file formats into Excel
- Analyze spreadsheet data by applying statistical and logical calculations and by sorting & filtering.
- Use Advanced Sort Techniques.
- Create Custom and Advanced filters
- Subtotal, Outline and Group a List of Data.
- Use database functions in Excel by importing external data and querying a database
- Use Daverage, Dsum, Dcount functions, while using Excel's database functionality.
- Calculate a moving averages.
- Project income and expenses and determine a break-even point.
- Save Excel Data in Other file formats. Use Advanced Sort Techniques.

SCIENCE AND TECHNOLOGY INTENSIVE COURSE DESIGNATION: This course is designated as a Science & Technology Intensive Course. Students will learn to explain how science and technology influence each other and how both can be used to explore natural and human-created systems.

STUDENT LEARNING OUTCOMES: *Students will have the opportunity to develop knowledge and/or skills concerning the ability to:*

1. Demonstrate basic knowledge of major concepts related to science and technology. Includes: current theories, historical and data trends, empirical findings.
2. Be able to critically read, evaluate and interpret research findings and/or theories and draw reasonable conclusions. Includes: supporting or rejecting a hypothesis or theory, analyzing case studies, providing alternative explanations.
3. Transfer, adapt, and apply prior knowledge to science and technology related issues and develop new understanding.
4. Be able to identify reliable sources of information from a variety of resources. Includes: library, websites, journals, magazines, newspapers, etc.

REQUIRED TEXT AND MATERIALS:

- ***GO! With Microsoft Excel 2016 Comprehensive*** by Gaskin, Vargas, and Marks, published by Pearson Prentice Hall. ISBN **9780134443928.** You may have difficulty finding the text, using this ISBN number, in locations other than the college bookstore. Instead, try searching for it, using the text's title that is noted above in green font.
- If a student cannot afford to purchase a book, one is put on reserve in each of the college's libraries. The book cannot be removed from either of the libraries. It can only be used in the library, while working on a computer. Sadly, for intersession classes, the library will be closed for most of the course. Therefore, using the book on reserve is not a feasible option and taking the course during the regular semester is the best method.
- Storage device for saving files (if you plan to work in the college's computer lab only)
- Use of Microsoft Office 2016/365
- Use of the Internet, so that you can access course materials on Blackboard, and access NECC student email account.

Please email Prof. Ethel Schuster *eschuster@necc.mass.edu* or Prof. Joanne Ronsivalli *jronsivalli@necc.mass.edu* with any questions you have regarding this Challenge exam.