CIS-107: COMPUTER CONCEPTS AND APPLICATIONS

Guided Study Syllabus

# SYLLABUS NAVIGATION

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# Syllabus

## COURSE DESCRIPTION

This course provides an overview of computer systems with a focus on historical development, hardware, application software, programming considerations, multimedia, communications, and the utilization of internet resources. Students are also engaged with research and applications pertinent to the purchase of computer systems, installation considerations, computer maintenance, the role of information systems within an organization, and system analysis and design. Careers in the computer field, security best practices, ethical guidelines, and privacy issues are also examined throughout the course. The "laboratory" portion of the course features the use of an office suite application environment.

## COURSE TOPICS

* Computer literacy
* Computer hardware and storage
* Computer applications and software
* Computer applications and mobile devices
* Computer security and access
* Computer systems design and development

## COURSE OBJECTIVES

After completing this course, students should be able to:

**CO 1** Demonstrate basic competency using office-based applications.

**CO 2** Summarize how computers are used within the business environment.

**CO 3** Differentiate between application software and system software.

**CO 4** Assess the ethical considerations pertaining to communication networks and databases.

**CO 5** Explain how the Internet can be used to solve business problems.

**CO 6** Differentiate between system development and program development.

**CO 7** Describe essential security, privacy, and ethical concerns pertaining to information technology.

**CO 8** Explain the uses of input and output devices.

## COURSE MATERIALS

You will need the following materials to complete your coursework. Some course materials may be free, open source, or available from other providers. You can access free or open-source materials by clicking the links provided below or in the module details documents. To purchase course materials, please visit the [University's textbook supplier](https://sites.google.com/tesu.edu/generalinformation/resources/educational-resources-landing-page/course-materials).

#### Required Textbook

* [*Introduction to Computer Applications and Concepts*](https://courses.lumenlearning.com/zeliite115/) by Lumen Learning is licensed under [CC BY 4.0](http://creativecommons.org/licenses/by/4.0).

#### Software

* [Microsoft Office 365, with MS Word, Excel, and PowerPoint](https://www.microsoft.com/en-US/store/b/education) (Get it free using your students.tesu.edu email account to register.)
* [G Suite by Google](https://gsuite.google.com/) with Documents, Spreadsheets, and Slides can be an alternative to Microsoft Office’s Word, Excel, and PowerPoint.
* [iWork by Apple](https://www.apple.com/iwork/) with Pages, Numbers, and Keynote can be an alternative to Microsoft Office’s Word, Excel, and PowerPoint.
* [LibreOffice (Formerly OpenOffice)](https://www.libreoffice.org/) with Writer, Calc, and Impress can be an alternative to Microsoft Office’s Word, Excel, and PowerPoint.

## COURSE STRUCTURE

**Computer Concepts and Applications** is a three-credit online course, consisting of **six** modules. Modules include an overview, topics, learning objectives, study materials, and activities. Module titles are listed below.

* **Module 1: Computer Literacy**Course objectives covered in this module: CO 1, CO 2, CO 5
* **Module 2: Computer Hardware and Storage**Course objectives covered in this module: CO 1, CO 4, CO 8
* **Module 3: Computer Applications and Software**Course objectives covered in this module: CO 1, CO 3
* **Module 4: Computer Applications and Mobile Devices**Course objectives covered in this module: CO 1, CO 2, CO 3
* **Module 5: Computer Security and Access**Course objectives covered in this module: CO 4, CO 5, CO 7
* **Module 6: Computer Systems Design and Development**Course objectives covered in this module: CO 2, CO 5, CO 6

## ASSESSMENT METHODS

For your formal work in the course, you are required to participate in online discussion forums, complete written assignments, finish a midterm project, and complete a final project. See below for details.

Consult the Course Calendar for due dates.

#### Promoting Originality

One or more of your course activities may utilize a tool designed to promote original work and evaluate your submissions for plagiarism. More information about this tool is available in [SafeAssign](https://docs.google.com/document/d/1zUhfbPL0y-LHEKHbYy1BKNyw7iHVxS7UImd8gzCrxks/edit?usp=sharing).

### Icon imageWritten Assignments

You are required to complete **six** written assignments. The written assignments are on a variety of topics associated with the course modules.

### Icon imageLaboratory Assignments

You are required to complete **four** laboratory assignments. The laboratory assignments are on a variety of topics associated with the course modules. You will be required to show your knowledge and skills using word processing, spreadsheet, and presentation applications while writing a paper.

### Icon imageMidterm Project

For the midterm project, you are required to develop a presentation with speaker notes, and a spreadsheet that summarizes the computer system resources needed for your selected company in order to compete within the identified industry.

### Final Project

For the final project, you are required to utilize the computer concepts and applications you have learned in the course and provide a written report that recommends the computer system resources needed for your selected company in order to complete within the identified industry. You are also required to submit a slide presentation based on your written report, and a spreadsheet summary of the computer system resources needed. You should include suggestions for service or product improvements, and planning ideas for competing throughout the global marketplace. You are expected to address considerations pertinent to technology resources, business growth, development, sustainability, organizational dynamics to include employee training, revisiting opportunities with suppliers, and how business growth can be achieved throughout foreign markets.

## GRADING AND EVALUATION

Your grade in the course will be determined as follows:

* **Written assignments (6)—**20%
* **Laboratory assignments (4)—**30%
* **Midterm Project—**25%
* **Final Project—**25%

All activities will receive a numerical grade of 0–100. You will receive a score of 0 for any work not submitted. Your final grade in the course will be a letter grade. Letter grade equivalents for numerical grades are as follows:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | A | = | 93–100 | C+ | = | 78–79 |
|  | A– | = | 90–92 | C | = | 73–77 |
|  | B+ | = | 88–89 | C– | = | 70–72 |
|  | B | = | 83–87 | D | = | 60–69 |
|  | B– | = | 80–82 | F | = | Below 60 |

To receive credit for the course, you must earn a letter grade of C or better (for an area of study course) or D or better (for a course not in your area of study), based on the weighted average of all assigned course work (e.g., exams, assignments, discussion postings).

## STRATEGIES FOR SUCCESS

#### First Steps to Success

To succeed in this course, take the following first steps:

* Read the entire Syllabus carefully, making sure that all aspects of the course are clear to you and that you have all the materials required for the course.
* Take time to read the entire Guided Study Student Handbook. The Handbook answers many questions about how to proceed through the course, and how to get the most from your educational experience at Thomas Edison State University.
* Familiarize yourself with the learning management systems environment—how to navigate it and what the various course areas contain. If you know what to expect as you navigate the course, you can better pace yourself and complete the work on time.
* If you are not familiar with web-based learning, be sure to review the processes for submitting assignments before class begins.

#### Study Tips

Consider the following study tips for success:

* To stay on track throughout the course, begin each week by consulting the Course Calendar section of the Syllabus. The Course Calendar provides an overview of the course and indicates due dates for submitting assignments and scheduling and taking examinations.
* Check Announcements regularly for new course information.

## ACADEMIC POLICIES

To ensure success in all your academic endeavors and coursework at Thomas Edison State University, familiarize yourself with all administrative and academic policies including those related to academic integrity, course late submissions, course extensions, and grading policies.

For more, see:

* [University-wide policies](https://www.tesu.edu/academics/catalog/college-wide-policies)
* [Undergraduate course policies and regulations](https://www.tesu.edu/academics/catalog/undergraduate-course-policies-and-regulations)
* [Graduate academic policies](https://www.tesu.edu/academics/catalog/graduate-academic-policies)
* [Nursing student policies](https://www.tesu.edu/academics/catalog/nursing-student-policies)
* [Academic code of conduct](https://www.tesu.edu/academics/catalog/academic-code-of-conduct)

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# COURSE CALENDAR

The Course Calendar provides an overview of assignment due dates and when to begin each module.

For details on each assignment, go to the course website and click the associated module.

Go to [Week-by-Week Dates](https://sites.google.com/tesu.edu/generalinformation/calendars/week-by-week-calendars) to see specific dates for the current semester.

## SUMMARY OF ACTIVITIES AND ASSESSMENTS

|  |  |  |
| --- | --- | --- |
| **Activity/Assessment** | **Week Due** | **Section in Which to Find Requirements** |
| Written Assignment 1 | 1 | Module 1 |
| Laboratory Assignment 1 | 2 | Module 1 |
| Written Assignment 2 | 3 | Module 2 |
| Laboratory Assignment 2 | 4 | Module 2 |
| Written Assignment 3 | 5 | Module 3 |
| * Midterm Project | 6 | Midterm Project |
| Written Assignment 4 | 7 | Module 4 |
| Laboratory Assignment 3 | 8 | Module 4 |
| Written Assignment 5 | 9 | Module 5 |
| Laboratory Assignment 4 | 10 | Module 5 |
| Written Assignment 6 | 11 | Module 6 |
| Final Project | 12 | Final Project |

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## WEEK-BY-WEEK CALENDAR

#### Week 1

* Monday—**BEGIN MODULE 1**
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Written Assignment 1 due

#### Week 2

* Monday—
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Laboratory Assignment 1 due

#### Week 3

* Monday—**BEGIN MODULE 2**
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Written Assignment 2 due

#### Week 4

* Monday—
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Laboratory Assignment 2 due

#### Week 5

* Monday—**BEGIN MODULE 3**
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Written Assignment 3 due

#### Week 6

* Monday—
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Midterm Project due

#### Week 7

* Monday—**BEGIN MODULE 4**
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Written Assignment 4 due

#### Week 8

* Monday—
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Laboratory Assignment 3 due

#### Week 9

* Monday—**BEGIN MODULE 5**
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Written Assignment 5 due

#### Week 10

* Monday—
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Laboratory Assignment 4 due

#### Week 11

* Monday—**BEGIN MODULE 6**
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Written Assignment 6 due

#### Week 12

* Monday—
* Tuesday—
* Wednesday—
* Thursday—
* Friday—
* Saturday—
* Sunday—Final Project due

# Module 1—Computer Literacy

## OVERVIEW

Module 1 provides you with the background of technology resources to utilize personally and within a business environment. The availability of tangible resources can serve as an important component for computer information systems professionals whether involved in workplace projects, social media activities, or leisure pursuits. Examples of available resources can include hardware, software, applications, and services. In Module 1, the history of the Internet and the World Wide Web are presented to provide a foundation of the progression of computer information systems. Key components via the examination of computer information systems will involve pertinent scaffolding concepts. Throughout Module 1, the initial scaffolding for the concepts of data, information, and knowledge will be introduced, examined, and shared.

## TOPICS

Module 1 covers the following topics:

* Computer literacy
* Data and information
* Internet and the World Wide Web (WWW)
* Global marketplace

## OBJECTIVES

After successfully completing Module 1, you should be able to:

**MO 1.1** Illustrate why computer literacy is vital to success in today’s world. [CO 2]

**MO 1.2** Compare and contrast data and information. [CO 1, CO 2]

**MO 1.3** Discuss the evolution of the Internet. [CO 5]

## STUDY MATERIALS

#### Readings

* Modules 1 and 5 in [*Introduction to Computer Applications and Concepts*](https://courses.lumenlearning.com/zeliite115/) by Lumen Learning
* Microsoft Word Tutorials:
  + 1: [Getting to know Word](https://edu.gcfglobal.org/en/word/getting-started-with-word/1/)
  + 3: [Creating and opening documents](https://edu.gcfglobal.org/en/word/creating-and-opening-documents/1/)
  + 4: [Saving and sharing documents](https://edu.gcfglobal.org/en/word/saving-and-sharing-documents/1/)
  + 5: [Text basics](https://edu.gcfglobal.org/en/word/text-basics/1/)
  + 6: [Formatting text](https://edu.gcfglobal.org/en/word/formatting-text/1/)
  + 8: [Indents and tabs](https://edu.gcfglobal.org/en/word/indents-and-tabs/1/)
  + 9: [Line and paragraph spacing](https://edu.gcfglobal.org/en/word/line-and-paragraph-spacing/1/)
  + 10: [Lists](https://edu.gcfglobal.org/en/word/lists/1/)
  + 11: [Hyperlinks](https://edu.gcfglobal.org/en/word/links/1/)
  + 12: [Page layout](https://edu.gcfglobal.org/en/word/page-layout/1/)
  + 13: [Printing documents](https://edu.gcfglobal.org/en/word/printing-documents/1/)
  + 14: [Breaks](https://edu.gcfglobal.org/en/word/breaks/1/)
  + 15: [Columns](https://edu.gcfglobal.org/en/word/columns/1/)
  + 16: [Headers, footers, and page numbers](https://edu.gcfglobal.org/en/word/headers-and-footers/1/)
* Microsoft Access Tutorials:
  + 1: [Introduction to databases](https://edu.gcfglobal.org/en/access/introduction-to-databases/1/)
  + 2: [Introduction to objects](https://edu.gcfglobal.org/en/access/introduction-to-objects/1/)
  + 3: [Getting started in Access](https://edu.gcfglobal.org/en/access/getting-started-in-access/1/)
  + 4: [Managing databases and objects](https://edu.gcfglobal.org/en/access/managing-databases-and-objects/1/)
  + 5: [Working with tables](https://edu.gcfglobal.org/en/access/working-with-tables/1/)
  + 6: [Workings with forms](https://edu.gcfglobal.org/en/access/working-with-forms/1/)
  + 7: [Sorting and filtering records](https://edu.gcfglobal.org/en/access/sorting-and-filtering-records/1/)
  + 8: [Designing a simple query](https://edu.gcfglobal.org/en/access/designing-a-simple-query/1/)
  + 9: [Designing a multi-table query](https://edu.gcfglobal.org/en/access/designing-a-multitable-query/1/)
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  + 11: [Creating reports](https://edu.gcfglobal.org/en/access/creating-reports/1/)
  + 12: [Advanced report options](https://edu.gcfglobal.org/en/access/advanced-report-options/1/)
  + 13: [Modifying tables](https://edu.gcfglobal.org/en/access/modifying-tables/1/)
  + 14: [Creating forms](https://edu.gcfglobal.org/en/access/creating-forms/1/)
  + 15: [Formatting forms](https://edu.gcfglobal.org/en/access/formatting-forms/1/)
  + 16: [Designing your own database](https://edu.gcfglobal.org/en/access/designing-your-own-database/1/)
  + 17: [How to create calculated fields and total rows](https://edu.gcfglobal.org/en/access/how-to-create-calculated-fields-and-totals-rows/1/)
  + 18: [How to create a find duplicates query](https://edu.gcfglobal.org/en/access/how-to-create-a-find-duplicates-query/1/)
  + 19: [Creating a parameter query](https://edu.gcfglobal.org/en/access/creating-a-parameter-query/1/)

#### Resources

In addition to the readings listed above, review the following tools:

* [Google Docs](https://gsuite.google.com/products/docs/) by Google
* [Pages](https://www.apple.com/pages/) by Apple
* [Writer](https://www.libreoffice.org/discover/writer/) by LibreOffice

## ACTIVITIES

Module 1 has three activities. Please consult the Course Calendar for the due dates.

### Icon imageWritten Assignment 1

For Written Assignment 1, response to the following questions in an essay of 300 to 500 words. Ensure that you include the references you use in APA format.

How might the evolution and growth of the Internet and associated World Wide Web impact business activities throughout the global marketplace and subsequent economies? Provide two examples to support your view. [MO 1.3]

### Icon imageLaboratory Assignment 1

For this assignment, you are required to write a paper of 500 to 750 words (2 to 3 pages). This paper should frame the office-based environment you are selecting for the current and upcoming course activities. Ensure you provide an overall thesis statement of why you selected this office-based environment, main points supporting your thesis statement, and references in support of your main points.

You are also required to provide five to seven screenshots of your installation steps (or getting access steps) for the office software you will be utilizing throughout the course. This can be Google G Suite, Apple’s iWork, LibreOffice, or Office 365. For the steps to include in your screenshots, you can utilize the following or similar actions:

* Locate and download the appropriate .exe file.
* Identify and double-click or open the .exe file.
* Recognize and follow the steps highlighted in the dialog box.
* Follow all steps to install the selected software.

To demonstrate your knowledge and skills of using a word processing application, you should format your paper using the following guidelines:

* Your thesis statement is highlighted in yellow.
* Headings are in bold.
* At least one image of screenshots is formatted with the “wrap text” feature.
* Add your name in the footer of your document.

Ensure that you include at least two references using corresponding in-text citations in APA format. [MO 1.1, MO 1.2]

# Module 2—Computer Hardware and Storage

## OVERVIEW

Module 2 provides you with an exposure to system inputs, outputs, and necessary storage requirements. The ability of professionals to utilize computer systems to address workplace projects and personal pursuits will often follow the standard progression of inputs and outputs. Looking at system processes provides a foundation for computer usage and project planning, which includes the generation of an idea or stimulus and a subsequent response or follow-up process. The framework of a computer system and network operate in the same manner, where signals or stimuli are generated and subsequent responses occur. In a network environment, stimuli can include the sending of data and information, the editing or updating of data and information, and the storage of deliverables. In Module 2, network resources and cloud functionalities will be examined throughout each activity.

## TOPICS

Module 2 covers the following topics:

* Input and output
* Storage resources
* Network and database options
* Cloud storage

## OBJECTIVES

After successfully completing Module 2, you should be able to:

**MO 2.1** Evaluate the various types of input and output devices. [CO 8]

**MO 2.2** Describe the versatility of database resources. [CO 4]

**MO 2.3** Discuss network-attached storage devices. [CO 1, CO 4]

## STUDY MATERIALS

#### Readings

* Module 2 in [*Introduction to Computer Applications and Concepts*](https://courses.lumenlearning.com/zeliite115/) by Lumen Learning
* Microsoft Windows Tutorials:
  + 1: [All about Windows](https://edu.gcfglobal.org/en/windowsbasics/all-about-windows/1/)
  + 2: [Navigating Windows](https://edu.gcfglobal.org/en/windowsbasics/navigating-windows/1/)
  + 3: [Working with files](https://edu.gcfglobal.org/en/windowsbasics/working-with-files/1/)
  + 4: [Finding files on your computer](https://edu.gcfglobal.org/en/windowsbasics/finding-files-on-your-computer/1/)
  + 5: [Common computer tasks](https://edu.gcfglobal.org/en/windowsbasics/common-computer-tasks/1/)
  + 6: [Adjusting your settings](https://edu.gcfglobal.org/en/windowsbasics/adjusting-your-settings/1/)
  + 7: [Understanding user accounts](https://edu.gcfglobal.org/en/windowsbasics/understanding-user-accounts/1/)
  + 8: [Keyboard shortcuts in Windows](https://edu.gcfglobal.org/en/windowsbasics/keyboard-shortcuts-in-windows/1/)
  + 9: [Common application in Windows](https://edu.gcfglobal.org/en/windowsbasics/common-applications-in-windows/1/)
  + 10: [Opening files with different applications](https://edu.gcfglobal.org/en/windowsbasics/opening-files-with-different-applications/1/)
  + 11: [Working with flash drives](https://edu.gcfglobal.org/en/windowsbasics/working-with-flash-drives/1/)
  + 12: [Troubleshooting basic problems](https://edu.gcfglobal.org/en/windowsbasics/troubleshooting-basic-problems/1/)
  + 13: [How to survive the end of Windows XP support](https://edu.gcfglobal.org/en/windowsbasics/how-to-survive-the-end-of-windows-xp-support/1/)
  + 14: [Why you should upgrade to Windows 10](https://edu.gcfglobal.org/en/windowsbasics/why-you-should-upgrade-to-windows-10/1/)
  + 15: [More resources](https://edu.gcfglobal.org/en/windowsbasics/more-resources/1/)
* Microsoft Excel Tutorials:
  + 1: [Getting started with Excel](https://edu.gcfglobal.org/en/excel/getting-started-with-excel/1/)
  + 3: [Creating and opening workbooks](https://edu.gcfglobal.org/en/excel/creating-and-opening-workbooks/1/)
  + 4: [Saving and sharing workbooks](https://edu.gcfglobal.org/en/excel/saving-and-sharing-workbooks/1/)
  + 5: [Cell basics](https://edu.gcfglobal.org/en/excel/cell-basics/1/)
  + 6: [Modifying columns, rows, and cells](https://edu.gcfglobal.org/en/excel/modifying-columns-rows-and-cells/1/)
  + 7: [Formatting cells](https://edu.gcfglobal.org/en/excel/formatting-cells/1/)
  + 12: [Page layout and printing](https://edu.gcfglobal.org/en/excel/page-layout-and-printing/1/)
  + 13: [Intro to formulas](https://edu.gcfglobal.org/en/excel/intro-to-formulas/1/)
  + 14: [Creating more complex formulas](https://edu.gcfglobal.org/en/excel/creating-more-complex-formulas/1/)
  + 15: [Relative and absolute references](https://edu.gcfglobal.org/en/excel/relative-and-absolute-cell-references/1/)
  + 16: [Functions](https://edu.gcfglobal.org/en/excel/functions/1/)
  + 18: [Freezing panes and views options](https://edu.gcfglobal.org/en/excel/freezing-panes-and-view-options/1/)
  + 19: [Sorting data](https://edu.gcfglobal.org/en/excel/sorting-data/1/)
  + 20: [Filtering data](https://edu.gcfglobal.org/en/excel/filtering-data/1/)
  + 21: [Groups and subtotals](https://edu.gcfglobal.org/en/excel/groups-and-subtotals/1/)
  + 22: [Tables](https://edu.gcfglobal.org/en/excel/tables/1/)
  + 23: [Charts](https://edu.gcfglobal.org/en/excel/charts/1/)
* Microsoft Access Tutorials:
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  + 2: [Introduction to objects](https://edu.gcfglobal.org/en/access/introduction-to-objects/1/)
  + 3: [Getting started in Access](https://edu.gcfglobal.org/en/access/getting-started-in-access/1/)
  + 4: [Managing databases and objects](https://edu.gcfglobal.org/en/access/managing-databases-and-objects/1/)
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  + 14: [Creating forms](https://edu.gcfglobal.org/en/access/creating-forms/1/)
  + 15: [Formatting forms](https://edu.gcfglobal.org/en/access/formatting-forms/1/)
  + 16: [Designing your own database](https://edu.gcfglobal.org/en/access/designing-your-own-database/1/)
  + 17: [How to create calculated fields and total rows](https://edu.gcfglobal.org/en/access/how-to-create-calculated-fields-and-totals-rows/1/)
  + 18: [How to create a find duplicates query](https://edu.gcfglobal.org/en/access/how-to-create-a-find-duplicates-query/1/)
  + 19: [Creating a parameter query](https://edu.gcfglobal.org/en/access/creating-a-parameter-query/1/)

#### Resources

In addition to the readings listed above, review the following tools:

* [Google Drive](https://gsuite.google.com/products/drive/) by Google
* [Sheets](https://gsuite.google.com/products/sheets/) by Google
* [iCloud](https://www.icloud.com/) by Apple
* [Numbers](https://www.apple.com/numbers/) by Apple
* [Base](https://www.libreoffice.org/discover/base/) by LibreOffice
* [Calc](https://www.libreoffice.org/discover/calc/) by LibreOffice

## ACTIVITIES

Module 2 has two activities. Please consult the Course Calendar for the due dates.

### Icon imageWritten Assignment 2

For Written Assignment 2, response to the following questions in an essay of 300 to 500 words. Ensure that you include the references you use in APA format.

Many individuals and organizations are choosing cloud storage for their important files. Discuss the pros and cons of cloud storage for both personal files and business files. What inputs and outputs are needed to support the storage environment? If you were the CIO of a corporation and were asked to make a decision regarding whether or not the organization would use cloud storage for their critical business files, defend the decision that you would make. [MO 2.1, MO 2.2, MO 2.3]

### Icon imageLaboratory Assignment 2

For this assignment, you are required to write a paper of 500 to 750 words (2 to 3 pages). Your paper should explain the key hardware and storage considerations for your identified firm. Your planning document should include a table of key components, estimated cost, five to seven screenshots of selected technologies, estimated cost, and rationale guiding your planning and selection steps. As a guiding resource, please find an initial list of hardware and storage considerations that you can include below:

Hardware and Storage List

* Connectivity
* Database software
* Peripheral devices
* Routers
* Servers

Ensure that you include at least two references using corresponding in-text citations in APA format. [MO 2.1, MO 2.3]

# Module 3—Computer Applications and Software

## OVERVIEW

Module 3 provides you with a better understanding of computer applications and software considerations pertinent to business or workplace requirements. The requirements for applications and software considerations are quite diverse when working on workplace projects and even via personal pursuits. Applications provide users with the ability to analyze data, organize data, organize information, share information, and work to obtain knowledge based on resultant findings. Computer applications and software can be utilized via desktop systems, laptops, mobile devices, peripherals, and systems managing processes. Applications can also be utilized to automate steps and tasks often tied to manual activities. Software and applications can also be utilized via a cloud environment, where resources can be leveraged and utilized without having to work through multiple large downloads.

## TOPICS

Module 3 covers the following topics:

* Operating systems
* Utility programs
* Application software
* Solving business problems

## OBJECTIVES

After successfully completing Module 3, you should be able to:

**MO 3.1** Discuss how the operating system and utility programs work with application software. [CO 1, CO 3]

**MO 3.2** Explain key features of widely used application software. [CO 1, CO 3]

**MO 3.3** Recommend application software solutions to solve business problems. [CO 3]

## STUDY MATERIALS

#### Readings

* Modules 3 and 16 in [*Introduction to Computer Applications and Concepts*](https://courses.lumenlearning.com/zeliite115/) by Lumen Learning
* Microsoft Access and PowerPoint Tutorials:
  + 1: [Getting started with PowerPoint](https://edu.gcfglobal.org/en/powerpoint/getting-started-with-powerpoint/1/)
  + 3: [Creating and opening presentations](https://edu.gcfglobal.org/en/powerpoint/creating-and-opening-presentations/1/)
  + 4: [Saving presentations](https://edu.gcfglobal.org/en/powerpoint/saving-presentations/1/)
  + 5: [Slide basics](https://edu.gcfglobal.org/en/powerpoint/slide-basics/1/)
  + 6: [Text basics](https://edu.gcfglobal.org/en/powerpoint/text-basics/1/)
  + 7: [Applying themes](https://edu.gcfglobal.org/en/powerpoint/applying-themes/1/)
  + 8: [Applying transitions](https://edu.gcfglobal.org/en/powerpoint/applying-transitions/1/)
  + 9: [Managing slides](https://edu.gcfglobal.org/en/powerpoint/managing-slides/1/)
  + 11: [Printing](https://edu.gcfglobal.org/en/powerpoint/printing/1/)
  + 12: [Presenting](https://edu.gcfglobal.org/en/powerpoint/presenting-your-slide-show/1/)
  + 13: [Lists](https://edu.gcfglobal.org/en/powerpoint/lists/1/)
  + 14: [Indents and line spacing](https://edu.gcfglobal.org/en/powerpoint/indents-and-line-spacing/1/)
  + 15: [Inserting pictures](https://edu.gcfglobal.org/en/powerpoint/inserting-pictures/1/)
  + 16: [Formatting pictures](https://edu.gcfglobal.org/en/powerpoint/formatting-pictures/1/)
  + 17: [Shapes](https://edu.gcfglobal.org/en/powerpoint/shapes/1/)
  + 18: [Aligning, ordering, and grouping objects](https://edu.gcfglobal.org/en/powerpoint/aligning-ordering-and-grouping-objects/1/)
  + 19: [Animating text and objects](https://edu.gcfglobal.org/en/powerpoint/animating-text-and-objects/1/)
  + 20: [Inserting videos](https://edu.gcfglobal.org/en/powerpoint/inserting-videos/1/)
  + 21: [Inserting audio](https://edu.gcfglobal.org/en/powerpoint/inserting-audio/1/)
  + 22: [Tables](https://edu.gcfglobal.org/en/powerpoint/tables/1/)
  + 23: [Charts](https://edu.gcfglobal.org/en/powerpoint/charts/1/)
  + 24: [SmartArt graphics](https://edu.gcfglobal.org/en/powerpoint/smartart-graphics/1/)
  + 25: [Checking spelling and grammar](https://edu.gcfglobal.org/en/powerpoint/checking-spelling-and-grammar/1/)
  + 26: [Reviewing presentations](https://edu.gcfglobal.org/en/powerpoint/reviewing-presentations/1/)
  + 27: [Inspecting and protecting presentations](https://edu.gcfglobal.org/en/powerpoint/inspecting-and-protecting-presentations/1/)
  + 28: [Modifying themes](https://edu.gcfglobal.org/en/powerpoint/modifying-themes/1/)
  + 29: [Slide master view](https://edu.gcfglobal.org/en/powerpoint/slide-master-view/1/)
  + 30: [Links](https://edu.gcfglobal.org/en/powerpoint/links/1/)

#### Resources

In addition to the readings listed above, review the following tools:

* [Google Slides](https://gsuite.google.com/intl/en_us/products/slides/) by Google
* [Keynote](https://www.apple.com/keynote/) by Apple
* [Impress](https://www.libreoffice.org/discover/impress/) by LibreOffice

## ACTIVITIES

Module 3 has one activity. Please consult the Course Calendar for the due dates.

### Icon imageWritten Assignment 3

For Written Assignment 3, response to the following questions in an essay of 300 to 500 words. Ensure that you include the references you use in APA format.

Consider that you are responsible for deciding if there should be limitations on employees’ access to computer systems, applications, and the Internet at your company and explain what your decision would be as well as why you would make that choice.

What might be the disadvantages of allowing unlimited access? What might be the advantages? [MO 3.1, MO 3.2, MO 3.3]

# Module 4—Computer Applications and Mobile Devices

## OVERVIEW

Module 4 provides you with a more in depth understanding of computer applications and mobile device software considerations pertinent to business, personal, and workplace requirements. The utilization of computer applications, web-based applications, and mobile devices continues for workplace initiatives and even for personal pursuits. Professionals can leverage applications via web browsers, on computer systems, and via mobile devices. Momentum is growing for the utilization of mobile devices and peripherals, where applications can be utilized in environments throughout the marketplace. Mobile devices provide users with the opportunity to utilize computer system software and applications on handheld tools and devices. In Module 4, a focus on mobile devices is included, so that diverse tools and resources can be examined in more detail.

## TOPICS

Module 4 covers the following topics:

* Business communications
* Desktop and notebook systems
* Mobile devices
* Application resources

## OBJECTIVES

After successfully completing Module 4, you should be able to:

**MO 4.1** Identify software used in communication. [CO 1, CO 2]

**MO 4.2** Describe characteristics and uses of desktops, notebooks, and mobile devices. [CO 1, CO 2]

**MO 4.3** Illustrate key features of mobile application resources. [CO 3]

## STUDY MATERIALS

#### Readings

* Modules 5, 10, and 11 in [*Introduction to Computer Applications and Concepts*](https://courses.lumenlearning.com/zeliite115/) by Lumen Learning

#### Resources

In addition to the readings listed above, review the following tools:

* [Currents](https://gsuite.google.com/products/currents/) by Google
* [Productivity](https://www.apple.com/business/docs/site/AAW_Productivity.pdf) by Apple
* [Discover](https://www.libreoffice.org/discover/new-features/) by LibreOffice

## ACTIVITIES

Module 4 has two activities. Please consult the Course Calendar for the due dates.

### Icon imageWritten Assignment 4

For Written Assignment 4, response to the following questions in an essay of 300 to 500 words. Ensure that you include the references you use in APA format.

Is it possible for an organization to rely too heavily on mobile devices and not enough on traditional computer systems? Explain your answer. [MO 4.1, MO 4.2, MO 4.3]

### Icon imageLaboratory Assignment 3

For this assignment, you are required to write a paper of 500 to 750 words (2 to 3 pages), and submit a spreadsheet file. Your paper should explain the applications, software, and mobile devices that can be utilized within your selected firm. Ensure you provide an overall thesis statement of why you selected the identified resources, main points supporting your thesis statement, and references in support of your main points. You should provide five to seven screenshots of selected application software.

For the steps to include in your application software screenshots, please utilize the following or similar actions organized via a spreadsheet application:

* Analyze the cost requirements of your selected focus.
* Conduct the appropriate research to quantify at least three options based on the parameters you have selected. Examples may include cost, quantity, and speed.
* Review the selected options to provide the best selections based on quantifiable measurements. Potential considerations might be cost, frequency, and duration.
* Provide planning for necessary customization and integration. Examples can include number of peripheral devices for identified project, timeline for upgrades, and patch management intervals as 30, 60, and 90 days.

Ensure that you include at least two references using corresponding in-text citations in APA format. [MO 4.1, MO 4.2, MO 4.3]

# Module 5—Computer Security and Access

## OVERVIEW

Module 5 provides you with an understanding of computer security, availability and access considerations pertinent to business and workplace requirements. Computer security is becoming a seminal component of all workplace and personal computer-based activities. The activities impacted by security considerations can be evidenced via computer usage, laptops, networks, cloud storage and access, and mobile devices. The motivation for utilizing security protocols can be developed via the identification of phishing activities via email communications, malware intrusions via the downloading and saving of files, hacking and opening of personal or private items, and the stealing of protected information. The requirement for computer security best practices can greatly impact business projects and personal hobbies as many security breaches can lead to substantial financial losses. Vigilant and proactive considerations are championed throughout the activities of this module.

## TOPICS

Module 5 covers the following topics:

* Access and availability
* Security risks and considerations
* Wireless benefits and challenges
* Cloud computing resources

## OBJECTIVES

After successfully completing Module 5, you should be able to:

**MO 5.1** Discuss digital security risks, resources, and tools. [CO 4]

**MO 5.2** Explain risks and safeguards associated with wireless communications. [CO 7]

**MO 5.3** Describe cloud computing functionalities. [CO 5]

## STUDY MATERIALS

#### Readings

* Modules 6 and 7 in [*Introduction to Computer Applications and Concepts*](https://courses.lumenlearning.com/zeliite115/) by Lumen Learning
* Microsoft Word Tutorials:
  + 18: [Pictures and text wrapping](https://edu.gcfglobal.org/en/word/pictures-and-text-wrapping/1/)
  + 19: [Formatting pictures](https://edu.gcfglobal.org/en/word/formatting-pictures/1/)
  + 20: [Shapes](https://edu.gcfglobal.org/en/word/shapes/1/)
  + 21: [Text boxes](https://edu.gcfglobal.org/en/word/text-boxes/1/)
  + 22: [Aligning, ordering, and grouping objects](https://edu.gcfglobal.org/en/word/aligning-ordering-and-grouping-objects/1/)
  + 23: [Tables](https://edu.gcfglobal.org/en/word/tables/1/)
  + 24: [Charts](https://edu.gcfglobal.org/en/word/charts/1/)
  + 25: [Checking spelling and grammar](https://edu.gcfglobal.org/en/word/checking-spelling-and-grammar/1/)
  + 26: [Track changes and comments](https://edu.gcfglobal.org/en/word/track-changes-and-comments/1/)
  + 27: [Inspecting and protecting documents](https://edu.gcfglobal.org/en/word/inspecting-and-protecting-documents/1/)

#### Resources

In addition to the readings listed above, review the following tools:

* [Google Workspace Security and Trust](https://gsuite.google.com/intl/en_us/security/?secure-by-design_activeEl=data-centers) by Google
* [Platform Security](https://www.apple.com/business/docs/site/AAW_Platform_Security.pdf) by Apple
* [Bugzilla](https://bugs.documentfoundation.org) by LibreOffice

## ACTIVITIES

Module 5 has two activities. Please consult the Course Calendar for the due dates.

### Icon imageWritten Assignment 5

For Written Assignment 5, response to the following questions in an essay of 300 to 500 words. Ensure that you include the references you use in APA format.

Has your computer or mobile device ever been infected with a virus? If so, what steps were taken to remove the virus? If not, why do you think that you have not had this problem? For either situation (infected or not), describe the steps you must take to keep your computer and mobile device safe. [MO 5.1, MO 5.2]

### Icon imageLaboratory Assignment 4

For this assignment, you are required to write a paper of 500 to 750 words. Your paper should explain key cloud accessibility and storage considerations for your identified firm. Your planning document can include a list of key components, screenshots, and rationale guiding your planning and selection steps. You should provide five to seven screenshots of your installation and management steps for the storage component of the office software you have been utilizing throughout the course. This can be Microsoft OneDrive, Google Drive, or iCloud. As a guiding resource, please find an initial list of cloud-based accessibility and storage considerations that you can include below:

* Provide a brief diagram of how you will organize your data and information. Utilize a presentation software application to illustrate your diagram.
* List the steps you will utilize to maintain clean data.
* Identify how your data will be backed-up.

Cloud Accessibility and Storage List

* Access, login, and credentials
* Web browser requirements
* Portability
* Software updates
* Capacity

Ensure that you include at least two references using corresponding in-text citations in APA format. [MO 5.3]

# Module 6—Computer Systems Design and Development

## OVERVIEW

Module 6 provides you with an understanding of computer systems design, development, and planning considerations pertinent to business activities, personal usage, and workplace requirements. Computer systems design is rooted in the need to foster an environment of research, development, and feedback throughout the business lifecycle. Successful professionals will likely be those who promote a consistent environment of research activities, integrating proven ideals, incorporating development best practices, and seeking feedback for process improvements. These steps will serve professionals well when working on personal hobbies, business projects, or collaborating with colleagues across organizational or industry activities. Computer systems can be utilized to brainstorm ideas, organize options, and evaluate the best alternatives. Desktops, laptops, and mobile device resources can also be utilized to analyze, share, and collaborate on pertinent activities.

## TOPICS

Module 6 covers the following topics:

* Enterprise systems
* Systems development
* Data gathering and feasibility
* Project management

## OBJECTIVES

After successfully completing Module 6, you should be able to:

**MO 6.1** Describe the integrated information systems used throughout an enterprise. [CO 2, CO 5]

**MO 6.2** Discuss the phases of systems development. [CO 6]

**MO 6.3** Assess the importance of project management, feasibility, assessment, documentation, and data and information gathering techniques. [CO 2, CO 6]

## STUDY MATERIALS

#### Readings

* Microsoft Excel Tutorials:
  + 1: [Getting started with Excel](https://edu.gcfglobal.org/en/excel/getting-started-with-excel/1/)
  + 3: [Creating and opening workbooks](https://edu.gcfglobal.org/en/excel/creating-and-opening-workbooks/1/)
  + 4: [Saving and sharing workbooks](https://edu.gcfglobal.org/en/excel/saving-and-sharing-workbooks/1/)
  + 5: [Cell basics](https://edu.gcfglobal.org/en/excel/cell-basics/1/)
  + 6: [Modifying columns, rows, and cells](https://edu.gcfglobal.org/en/excel/modifying-columns-rows-and-cells/1/)
  + 7: [Formatting cells](https://edu.gcfglobal.org/en/excel/formatting-cells/1/)
  + 12: [Page layout and printing](https://edu.gcfglobal.org/en/excel/page-layout-and-printing/1/)
  + 13: [Intro to formulas](https://edu.gcfglobal.org/en/excel/intro-to-formulas/1/)
  + 14: [Creating more complex formulas](https://edu.gcfglobal.org/en/excel/creating-more-complex-formulas/1/)
  + 15: [Relative and absolute references](https://edu.gcfglobal.org/en/excel/relative-and-absolute-cell-references/1/)
  + 16: [Functions](https://edu.gcfglobal.org/en/excel/functions/1/)
  + 18: [Freezing panes and views options](https://edu.gcfglobal.org/en/excel/freezing-panes-and-view-options/1/)
  + 19: [Sorting data](https://edu.gcfglobal.org/en/excel/sorting-data/1/)
  + 20: [Filtering data](https://edu.gcfglobal.org/en/excel/filtering-data/1/)
  + 21: [Groups and subtotals](https://edu.gcfglobal.org/en/excel/groups-and-subtotals/1/)
  + 22: [Tables](https://edu.gcfglobal.org/en/excel/tables/1/)
  + 23: [Charts](https://edu.gcfglobal.org/en/excel/charts/1/)

#### Resources

In addition to the readings listed above, review the following tools:

* [Endpoint Management](https://gsuite.google.com/intl/en_us/products/admin/endpoint/) by Google
* [Deployment and Management](https://www.apple.com/business/docs/site/AAW_Deployment_and_Management.pdf) by Apple
* [Developers](https://www.libreoffice.org/community/developers/) by LibreOffice

## ACTIVITIES

Module 6 has one activity. Please consult the Course Calendar for the due dates.

### Icon imageWritten Assignment 6

For Written Assignment 6, response to the following questions in an essay of 300 to 500 words. Ensure that you include the references you use in APA format.

Discuss how the use of computers and technology have changed the way managers and business professionals sustain information systems throughout an enterprise.

Is it possible to count too much on research of potential requirements and not enough on the useability of data, information, and services via computer systems? Explain your answer. [MO 6.1, MO 6.2, MO 6.3]

# Midterm Project

## OVERVIEW

For the midterm project, you are required to develop a presentation with speaker notes and a spreadsheet that summarizes the computer system resources needed for your selected company in order to compete within the identified industry.

*Course objectives covered in this project include CO 1, CO 2, CO 3, CO 5*

## GUIDELINES AND REQUIREMENTS

The midterm project is an extension of your lab assignments in Modules 1 and 2, in which you have identified the office-based environment, and key hardware and storage considerations.

For the midterm project, assuming you will make recommendations of office application and computer hardware to your identified firm in the lab assignments, create a slide presentation with the following requirements.

* Your presentation should include six to eight slides that incorporate graphics.
* Each slide should include speaker notes to expand the main points.
* Include an overview slide.
* Include recommendations of office applications with new screenshots.
* Include recommendations of hardware with new screenshots.
* Demonstrate how priorities and goals have been set.
* Define the needed variables and deliverables.
* Create a schedule of the project and anticipated completion.
* Identify potential issues and provide an initial risk assessment.

You are also required to submit a spreadsheet that lists the application, tools, components, and proposed costs. For the costs, you should include unit price and total price, and grand total costs for both software and hardware, using formula and functions of the spreadsheet application as appropriate.

# Final Project

## OVERVIEW

For the final project, you are required to utilize the computer concepts and applications you have learned in this course and provide a written report that recommends the computer system resources needed for your selected company in order to complete within the identified industry. You are also required to submit a slide presentation based on your written report, and a spreadsheet summary of the computer system resources needed. You should also include suggestions for service or product improvements, and planning ideas for competing throughout the global marketplace. You are expected to address considerations pertinent to technology resources, business growth, development, sustainability, organizational dynamics to include employee training, revisiting opportunities with suppliers, and how business growth can be achieved throughout foreign markets.

*Course objectives covered in this paper/project include CO 1, 2, 3, 4, 5, 6, 7, 8*

## GUIDELINES AND REQUIREMENTS

You are required to submit three parts for the final project, a written report, a slide presentation, and a spreadsheet file.

### Part 1: Written Report

The final project written report part is an extension of your lab assignments. Your written report should be 1000 to 1500 words (4 to 6 pages). Include 10 to 12 new screenshots of the selected technologies, 4 new developed images via a presentation software, and a list of incorporated costs via a spreadsheet. Ensure you provide an overall thesis statement of why you selected the identified resources, main points supporting your thesis statement, and references in support of your main points. Potential considerations to include for your deliverable are listed below:

* Demonstrate how storage and security priorities and goals have been achieved.
* Illustrate how the defined storage and security variables and deliverables have been met.
* Create a schedule of the project and the completion of all required project enterprise storage and security steps.
* Illustrate how potential storage issues, accessibility requirements, and identified security risks have been accounted for throughout the project.

Ensure that you include at least five references using corresponding in-text citations in APA format.

### Part 2: Slide Presentation

You are required to submit a slide presentation based on your written report with the following guidelines.

* Include 12 to 15 slides.
* incorporate graphics in slides.
* Include a spreadsheet or table component listing tools or resources selected and proposed costs.

### Part 3: Spreadsheet File

You are also required to submit a spreadsheet file that lists the costs of your recommendations of computer applications, tools, and other technology resources. For the costs, you should include unit price and total price and grand total costs using formula and functions of the spreadsheet application as appropriate.

## WRITING AND RESEARCH RESOURCES

The following links provide online writing and research aids to help you with your paper assignments.

* [OWL](http://owl.english.purdue.edu/owl/) (Online Writing Lab) at Purdue University
* [Writer's Handbook](http://writing.wisc.edu/Handbook/index.html), the Writing Center at the University of Wisconsin–Madison
* [APA Guidelines](http://www.apastyle.org/)
* [Information Literacy for TESU Students](http://libguides.njstatelib.org/info_literacy) (an online guide from the New Jersey State Library to assist you in starting your research, searching databases for articles, citing sources, using ILLiad to request books or articles, etc.)