

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY**  
**ITE 115 – INTRODUCTION TO COMPUTER APPLICATIONS AND CONCEPTS (3 CR.)**

**Course Description**

Covers computer concepts and internet skills, and uses a software suite which includes word processing, spreadsheet, database, and presentation software to demonstrate skills. Lecture 3 hours per week.

**General Course Purpose**

This course provides a foundation in information technology concepts, operating system functions and computer applications. The course also includes topics in computer ethics, computer security and HTML (Creating a Website). This course can be used to meet the College's general education information literacy goals and as a general elective in any program that the college offers.

**Course Prerequisites/Corequisites**

Recommended prerequisite: keyboarding skills.

**Course Objectives**

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

- a) Identify and discuss the four main components of computer hardware: input, processing, output, and storage
- b) Identify and describe major hardware components
- c) Identify major steps in the historical development of computers and information systems
- d) Identify, describe and use communications and networking terminology and technology to include Internet operations and its uses
- e) Describe the major operating system functions and demonstrate usage of operating system services to include: disk management, file management, and memory management
- f) Identify and discuss computer ethics and security issues
- g) Demonstrate searching, validation, and evaluation of information found in library databases
- h) Identify, discuss and use important categories of application software: word processing, spreadsheet, and presentation graphics
- i) Identify and discuss software development processes and programming languages and database systems
- j) Create a Web site with HTML tags and post to a Web server
- k) Identify and discuss emerging technologies (optional)

**Major Topics to be Included**

- a) Computer Hardware
- b) Communications Technology
- c) Cloud Computing
- d) Operating Systems
- e) Ethics and Security
- f) Information Literacy

- g) Productivity Tools
- h) Web Authoring and Publishing
- i) Project Collaboration in the Cloud
- j) Software Development
- k) Cloud Computing
- l) Emerging Technologies (optional)

### Student Learning Outcomes

#### Computer Hardware

##### Input/Output

- a) Identify computer hardware components
- b) Describe the different monitor and resolution types
- c) Describe the use of the keyboard and other input devices
- d) Describe different print technologies
- e) Discuss the function of popular hardware ports being used on various platforms.

##### Processing

- a) Explain CPU functions
- b) Describe the function of the motherboard
- c) Discuss the processing speed/system clock
- d) Discuss the function of the bus

##### Storage

- a) Describe types of storage
- b) Identify different memory types
- c) Define cloud storage and discuss its advantages and disadvantages
- d) Describe the data storage hierarchy

#### Communications Technologies

- a) Describe different network architecture and network types.
- b) Discuss wireless technologies
- c) Define Internet and World Wide Web technologies
- d) Explain the operations of web servers
- e) Discuss advanced web technologies

#### Cloud Computing

- a) Differentiate between on premise vs cloud computing
- b) Identify characteristics of cloud computing technology
- c) Compare the most common cloud computing models
- d) Identify major cloud providers and services

#### Operating Systems

- a) Define the term operating system and discuss major operating system functions.
- b) Differentiate between desktop operating systems
- c) Differentiate mobile operating systems
- d) Distinguish between system software and application software
- e) Identify file types and corresponding file extensions

- f) Identify and describe the parts and use of a window in a GUI.
- g) Demonstrate desktop management skills:
- h) Demonstrate file management skills:
  - Create and recognize valid file names and folders
  - Use find, copy, move, rename, delete files and folders
  - Create archives of folders and files

#### Ethics and Security

- a) Describe information system vulnerabilities and associated risks
- b) Describe information security threats
- c) Distinguish between types of malicious software
- d) Define security goal - CIA (Confidentiality - Integrity - Availability)
- e) Discuss social, legal, and ethical issues related to the use of information systems

#### Information Literacy

- a) Explain how to evaluate information found online and in library databases for reliability, validity, accuracy, authority, timeliness, and point of view or bias
- b) Construct a search strategy using appropriate commands for the information retrieval system selected (phrase, truncation, Boolean operators, and subject terms)

#### Productivity Tools

##### Word Processing

- a) Identify the significant components of the word processing interface
- b) Use the Help system
- c) Perform basic editing, text formatting, move, copy, and cut and paste functions
- d) Use available view modes
- e) Use essential save and backup options
- f) Use print functions
- g) Create headers and footers
- h) Use document identification features such as embedded date, time and pagination in headers and/or footers
- i) Use document style features such as font styles, sizes, colors, margins, alignment, and indentation
- j) Use document context manipulation functions, such as find, search and replace, spell checker, and a grammarian

##### Spreadsheets

- a) Identify and explain the significant components of the spreadsheet interface
- b) Use the Help system
- c) Perform basic editing, data entry, move, copy, and cut and paste functions
- d) Perform basic insertion, deletion and modifications at the sheet/workbook level
- e) Create, and use formulas
- f) Use basic, built-in spreadsheet functions
- g) Distinguish between relative and absolute addressing
- h) Use relative and absolute addressing appropriately in a worksheet
- i) Use essential formatting features, including data type, color, alignment, shading, and font characteristics
- j) Use print functions
- k) Perform basic data representation using graphs and charts
- l) Work with multiple worksheets

- m) Import a database table into a spreadsheet application for analysis
- n) Apply sorting and querying/filtering features to the spreadsheet

#### Database

- a) Describe the difference between information and data
- b) Define Relational Database Management Systems
- c) Differentiate between server database and desktop database systems
- d) Divide information into tables for a set of data
- e) Identify fields and appropriate datatypes and sizes for given information
- f) Identify primary keys within a table
- g) Identify relationships between tables

#### Presentation Graphics

- a) Describe use of presentations, including discussion on appropriate data display techniques
- b) Create and manipulate simple slide shows with outlines and notes
- c) Create slide presentations that include text, graphics, animation, and transitions
- d) Use design layouts and templates for presentations

#### Web Authoring and Publishing

- a) Define languages used for website design
- b) Use HTML and CSS to develop a website
- c) Create a webpage structure according to W3 standards
- d) Format the webpage using Cascading Style Sheets (CSS) selectors
- e) Validate the web page according to W3 standards
- f) Publish a website

#### Project Collaboration in the Cloud

- a) Create, name, save and edit docs, slides, and sheets
- b) Copy, rename, and move docs, slides, and sheets
- c) Create forms
- d) Share docs, slides, sheets, and forms with collaborators
- e) Manage cloud storage

#### Software Development

- a) Define and describe software development models
- b) Differentiate between proprietary and open source software
- c) Discuss popular markup languages and popular programming languages

#### Optional Topics

##### Specialized and Emerging Technologies

- a) Decision and Group Decision Support Systems
- b) Knowledge-based and Expert Systems
- c) Artificial Intelligence
- d) Learning Systems
- e) Natural Language Processing

- f) Neural networks
- g) Robotics
- h) Bioinformatics

#### Required Time Allocation per Topic

In order to standardize the core topics of ITE 115 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 14 weeks of instruction and does not include the final exam week so  $14 \times 3.25 = 45$  hours. Sections of the course that are given in alternative formats from the standard 15 week section still meet for the same number of contact hours.) The final exam time is not included in the time table. The category. Other optional content, leaves ample time for an instructor to tailor the course to special needs or resources.

Topic	Time in Hours	Percentages
Computer Hardware	4	9%
Communications Technology	2	4%
Cloud Computing	3	7%
Operating Systems	3	7%
Ethics and Security	3	7%
Information Literacy	2	4%
Productivity Tools		
Word Processing	3	7%
Spreadsheets	7	15%
Databases	3	7%
Presentation Graphics	3	7%
Web Authoring and Publishing	4	9%
Project Collaboration in the Cloud	1.5	3%
Software Development	1	2%
Specialized and Emerging Technologies (Optional)	1	2%
Tests and Quizzes (not including the Final Exam)	4.5	10%
Total	45	100%