ITEC1001 Introduction to Computing Proficiency Exam Student Information Sheet

Proctored at

GGC Testing Center

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Dr. Susan F. Manaskie, Director of Testing Services

*Before contacting the testing center, you need to see if you are eligible to take the proficiency test. *

To do so, please contact:

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Contents

Overview

GGC students must take a minimum two (2) ITEC courses (a total of 8 credit hours) to graduate:

- Option A: ITEC1001: Intro to Computing and ITEC2110: Digital Media
- Option B: ITEC1001: Intro to Computing and ITEC 2120: Intro. to Programming
- Option C: ITEC 2110: Digital Media and ITEC 2120: Intro. to Programming
- Option D: ITEC 1001: Intro to Computing and ITEC 2130: Web Development

All students can choose Option A, B or Option D. To select Option C without taking ITEC 1001 first, you must take and pass a proficiency exam that covers content taught in ITEC 1001. This proficiency exam does NOT give you any course credit for ITEC 1001. Passing the exam simply gives you the opportunity to take higher level ITEC courses such as ITEC2110, ITEC 2120, and/or ITEC2130. If you pass the exam, you may still choose Option A, B, or C.

For ITEC majors: enroll in ITEC 2140: Programming Fundamentals instead of ITEC 2120.

The proficiency exam is the tool we use to determine if you are given the option to place out of ITEC1001. This exam will **neither give you credit** for ITEC1001 **nor** will the result of the exam **exempt** you from any of the General Education requirements. The result you receive on the exam is only used for placement - it will not appear anywhere on your transcript and will not affect your grade in any course. You can only take the exam once.

A student seeking to receive credit for ITEC 1001 should talk to the Testing Center about taking the CLEP test.

Registering for the Exam

You must schedule and register to take the exam at the Testing Center. Instructions are provided at the Testing Center https://www.ggc.edu/academics/academic-opportunities-and-support/testing-services/ .

Topics Covered in the Exam

 The exam consists of TWO components/tests:

1. **Concepts** – Accounts for 40% of the final grade - primarily based on the textbook ConnectMaster: **Investigating Technology 2e** (By Ted Todman and Casey Wilhelm), and
2. **Applications** - Accounts for 60% of the final grade - primarily based on the textbook **In Practice: MS Office 2019** (by Randy Nordell) covering *MS Word, Excel, PowerPoint*, and *Access* – 4 chapters each.

Please Note: you may use any comparable textbooks covering the topics listed below to help you prepare for the exam.

The following list of **topics, learning objectives**, and **questions** should serve as a **Study Guide** for the Proficiency Exam:

Concepts

Ch. 1 Software

Learning objectives

Understanding software

- What is software?

Understanding system software

- What is an operating system?
- What are the most widely-used operating systems?
- What is the Windows operating system?
- What are some advantages and disadvantages of the Windows

Operating system?

- What is the Macintosh operating system?
- What are some advantages and disadvantages of the Macintosh operating system?
- What is the Android operating system?
- What are some advantages and disadvantages of the Android operating system?
- What is the Linux operating system?
- What are some advantages and disadvantages of the Linux operating system?
- What is a network operating system?
- What is utility software?
- What is an applet?

Understanding applications software

- What is productivity software?
- What is word processing software?
- What is spreadsheet software?
- What is presentation software?
- What is database software?

Understanding cell phone (mobile) apps

- What are cell phone apps?
- How much data do cell phone apps use?
- What are the different categories of cell phone apps?
- How are cell phone apps downloaded?
- What is in the future for cell phone apps?
- How are cell phone apps created?

Understanding computer-based business information systems

- What are management information systems?
- What are transaction processing systems?
- What is decision support software?
- What are supply chain management software systems?

- What are executive support systems?
- What are enterprise resource planning systems?

Understanding the use of computers in business communication

- How is email used in business?
- What is proper etiquette in business email?
- What are the components of a properly composed business email?
- How is instant messaging used in business
- What is a conference call?
- What are the components of a profession voice mail greeting?
- What is Skype?
- What are Google Hangouts?

Understanding computer use ethics in business

- What is an acceptable use policy?
- What is employee-monitoring software?
- What are the ethics of using employee monitoring software?
- What are software licenses?

Understanding installing software

- What is installing?
- What is uninstalling?
- What are system management tools?
- What is a utility program?
- What are key system programs?

Understanding social media software

- What is social networking?
- What are the ethical issues associated with social media?
- What is Facebook?
- What risks are associated with posting on Facebook?
- What is LinkedIn?
- What are some best practices while posting on LinkedIn?
- What is Instagram?
- What risks are associated with posting on Instagram?
- What is Twitter?
- What risks are associated with tweeting?
- What is Snapchat?
- What is Pinterest?
- What is WhatsApp?
- What is Waze?
- What is Viber?

Understanding computer gaming

- What is MMORPG or MMO?
- What risks are associated with computer games?

Ch. 2 Hardware

Learning objectives

Understanding computers

- What is a computer?
- What are the functions of a computer?
- What is meant by the term "computer hardware"?
- What is a system unit?
- What is a laptop computer?
- What is a desktop computer?
- What is a tablet computer?
- What is an all-in-one computer?
- What is a two-in-one computer?
- What is a smartphone?
- What is a media player?
- What is an embedded computer?
- What is a server?
- What is a mainframe?
- What is a supercomputer?

Understanding computer components

- What is a processor?
- What is the machine cycle?
- What is clock speed?
- What is overclocking
- What is a single-core processor?
- What is a multi-core processor?
- What is memory?
- What is random access memory?
- What is cache?
- What is read-only memory?

Understanding storage

- What is a storage device?
- What is internal storage?
- What is hard drive capacity?
- What is internal storage?
- What is a traditional hard drive?

- What is a solid state hard drive?
- What is an optical drive
- What is a DVD
- What is Blu-ray?
- What is burning and ripping?
- What is downward or backward compatibility? Understanding ports and connectors
- What is a port?
- What is a connector?
- What is a USB port and connector?
- What is a HDMI port and connector?
- What is an Ethernet port and connector?
- What is a Lightning port and connector?
- What is a 3.5 mm audio port and connector?
- What is a MIDI port and connector?
- What is a wireless port?
- What is a protocol?
- What is Wi-Fi?
- What is Bluetooth?
- What is IrDA?

Understanding graphics output

- What is graphics?
- What is a graphics adapter?
- What is screen size?
- What is a pixel?
- What is resolution?
- What is native resolution?

Understanding how a computer works

- How do computers work?
- What is a typical motherboard layout?
- What is a bit?
- What is a byte?
- What is capacity?
- What is word size?
- What is ASCII?
- What is Unicode?
- What is the boot process?
- What is computer speed?
- What is hertz?

- What is megahertz and gigahertz?
- What is a bus?
- What is bus width?

Ch.3 The Internet
Learning objectives

Understanding the Internet
- How did the Internet begin?
- What is packet switching?
- What is ARPAnet?
- What is Internetworking?

Understanding the World Wide Web
- How did the World Wide Web begin?
- What was NeXT and GUI?
- Who was Tim Berners-Lee?
- What is hypertext?
- What is the World Wide Web Consortium (W3C)?
- What is Web 1.0, Web 2.0, and Web 3.0?

Understanding Internet Service Providers
- What is an Internet Service Provider?
- What is a digital subscriber line?
- What is cable Internet?
- What is fiber optics?
- What is internal storage?
- What is satellite Internet?
- What is cellular Internet?
- What is a data plan?

Understanding Internet service
- What is a ping?
- What is uploading?
- What is downloading?
- What is streaming?

Understanding Web browsing
- What is a Web browser?
- What Web browser options are available?
- What is a plug-in?
- What is a filter?

Understanding URLs

- What is a URL?
- What is a protocol?
- What is a domain name?
- What is a top-level domain?

Computing Ethics and Professional Practices

- What are ethics and ethical computing guidelines?
- What is ethical employee behavior and how do you report a violation?
- What is AUP and employee monitoring software?
- What constitutes an ethics incident?
- Discuss the Facebook scandal and issues with social media.
- What is geolocation?

Ch. 4 Networking and Immersive Reality

Learning objectives

Understanding networking terminology

- What is transmission media?
  - *What is fiber-optic cable?*
  - *What is coaxial cable?*
  - *What is twisted pair wiring?*
  - *What is Ethernet cable?*
  - *What is a Wi-F signal?*
  - *What is a cellular signal?*
  - *What is a microwave signal?*
- What is a modem?
- What is a router?
- What is a dual-band router?
- What is a switch?
- What is a media access control address?
- What is broadband?
- What is bandwidth?
- What is packet switching?
- What is circuit switching?
- What is an IP address?
- What are the parts of an IP address?
- How are IP addresses assigned to ISPs?
- How do ISPs assign IP addresses to customers?

Understanding networks

- What is a client/server network?

- What is a server-based network?
- What is a local area network?
- What is a wide area network?
- What is remote access?
- What is a virtual private network?
- What is an intranet?
- What is the file transfer protocol?
- What is BitTorrent?
- What is electronic funds transfer?
- What is electronic data interchange?

Understanding home networks

- What is needed to set up a wireless network?
- How can home network speeds be measured?
- What is a firewall?
- What is an SSID?
- What is WEP?
- What is WPA?
- What is WPA2?

Understanding cellular networks

- What is a cellular provider?
- What are the major cellular providers?
- How do cell phones work?
- How does a smartphone connect to the Internet?
- What is a base transceiver station?
- What is a mobile switching center?
- What are 3G, 4G, and LTE?
- What is roaming?
- What is syncing?
- What is tethering?
- What is a data plan?
- What is a prepaid phone?

Virtual Reality

- What is virtual reality?
- What are the uses of virtual reality?

Augmented Reality

- What is augmented reality?
- What are the uses of augmented reality?
- What are the challenges of implementing augmented

Ch. 5 Security

Learning objectives

Understanding cybercrime

- What is cybercrime?
    - o What types of cybercrimes exist?
- What are cyberattacks?
- What is cyberterrorism?
- What is cyberbullying?

Understanding malware

- What is malware?
- What is a computer virus?
    - o How does a digital device become infected with a computer virus?
    - o How do computer viruses work?
    - o What are symptoms of a computer virus?
- What is a virtual private network?
- How can computer viruses be avoided?
- What is a macro virus?
- What is a Trojan?
- What is an email virus?
- What is a worm?
- What is a rootkit?
- **What is a zombie?**
- What is a denial-of-service attack?
- What is spyware?
- What is a keystroke logger?
- What is a packet analyzer (sniffer)?

Understanding hackers

- What is a white hat hacker?
- What is a black hat hacker?
- What is a script kiddie?
- What is a hacktivist?

Understanding online nuisances

- What is spam?
    - o *What is a spam filter?*
- What is phishing?
- What is pharming?
- What is adware?

Understanding cookies

- What is a cookie?
- What is a session cookie?
- What is a persistent cookie?
- What risks are associated with cookies?
- How can cookies be managed?

Understanding computer security

- What is a filter?
- What is a firewall?
- What is a network address translation?
- What is a password?
- What is anti-virus software?

Ch. 6 Emerging Technologies

Learning objectives

Understanding emerging technologies in medicine

- What are smart contact lenses?
- What is smart medical imaging software?
- What are surgery robots?
- What are medicine delivery drones?
- What are Neuroprosthetics?
- What is skin hearing?
- What are smart medical wristbands
- What is nanotechnology and robots?
- What is finger reading?
- What is Organ on a chip (OCC)?
- What is gene editing?

Understanding emerging technologies in commerce

- What is everything-on-demand?
- What is facial recognition payment?
- What are self-driving trucks?
- What is blockchain?
- What is Cryptocurrency

Understanding emerging technologies in computing

- What are quantum computers?
- What are memristors?
- What is holographic storage?
- What is Artificial Intelligence (AI)?

- What is Google DeepMind AI?
- How will Edge Computing will boost IoT and AI?
- What is Edge Computing and the cloud?
- What are touchless interactions?
- What is brain computer interface?
- What is digital twin?
- What is artificial intelligence?
- What is machine learning?
- What is edge computing?
- How will edge computing impact the Internet of things and artificial intelligence?

Understanding emerging technologies in society

- What is Chicago's array-of-things?
- What is 5G cellular service?
- What are hot solar cells?
- What is antiplagiarism software?
- What is adaptive learning?
- What is predictive policing?
- How do you compose music using AI?
- What are video contact lenses?
- What is 3D crime scene imaging?
- What are translator devices?

Understanding emerging technologies in management

- What is enterprise resource planning?
- What challenges face enterprise resource planning?
- What is business intelligence?
- How will business intelligence be implemented?
- What is the impact of decision science and big data analytics on business intelligence?
- Collaboration board
- DS and BDA and Their Impact on BI

Additional Topics

- Data mining for political advantage
- Social media in politics
- Cyberattacks in asymmetric warfare
- Cloud collaboration

Office Applications – MS Office 2019

MS Word

- *Creating and Editing Documents*
    - Creating, Saving and Opening Documents
    - Entering and Selecting Text
    - Moving and Copying Text
    - Changing Fonts, Font Sizes, and Attributes
    - Changing Text Alignment, Line Spacing, and Paragraph Spacing
    - Checking Spelling and Grammar and Using the Thesaurus
    - Customizing Document Properties
- *Formatting and Customizing Documents*
    - Customizing Margins and Page Layout
    - Setting, Using, and Editing Tabs
    - Using Indents
    - Inserting Page Numbers, Headers, and Footers
    - Using Page and Section Breaks
    - Using Bulleted and Numbered Lists
    - Using Styles and Themes
    - Using Find and Replace
    - Using Borders, Shading, and Hyperlinks
- *Working with Reports and Multipage Documents*
    - Using Footnotes and Endnotes
    - Creating a Bibliography and Inserting Citations
    - Inserting a Table of Contents
    - Inserting a Cover Page
    - Using Bookmarks
    - Using Advanced Headers and Footers
    - Using Tables, Columns and Graphics
    - Creating and Editing Tables
    - Arranging Text in Tables
    - Formatting and Editing Tables
    - Working with Graphics

MS Excel

- *Creating and Editing Workbooks*
    - Creating, Opening and Saving Workbooks
    - Working with Text and Numbers
    - Using the Sum Function

- o Formatting a Worksheet
- o Editing Columns and Rows
- o Customizing Worksheets
- o Finalizing a Workbook
- *Working with Formulas and Function*
  - o Creating and Editing Basic Formulas
  - o Working with Cell References
  - o Applying Mathematical Order of Operations
  - o   Working with Common Functions
  - o Working with Financial, Logical, and Lookup Functions
  - o Working with Math and Trigonometry Functions
- *Creating and Editing Graphs*
  - o Creating a Chart Object and a Chart Sheet
  - o Designing a Chart with Quick Layouts and Styles
  - o Editing a Chart
  - o Formatting Chart Elements
  - o Using Images, Shapes, and WordArt in a Chart
  - o Creating and Editing a Pie Chart and a Combination Chart
  - o Inserting Sparklines in a Worksheet
- *Importing, Creating Tables, Sorting and Filtering, and Using Conditional Formatting*
  - o Importing Data
  - o Creating Excel Tables
  - o Sorting Data
  - o Filtering Data
  - o Using the Subtotal Command and Creating Outlines and Groups
  - o   Apply Conditional Formatting
  - o Using Goal Seek and Worksheet Protection

MS PowerPoint

- *Creating and Editing Presentation*
    - o Creating, Opening, and Saving Presentations
    - o Adding and Editing Presentation Text
    - o Rearranging Slides
    - o Working with Themes
    - o Inserting Headers and Footers
    - o Working with a Picture from a File
    - o Applying Transitions
    - o Explore Print Options
    - o Applying Properties
- *Illustrating with Pictures and Information Graphics*
    - o Work with Shapes, Colors and Styles
    - o Adding Text Effects and WordArt
    - o Working with Pictures
    - o Creating a Table
    - o Enhancing a Table
    - o Creating a SmartArt Graphic
    - o Enhancing a SmartArt Graphic
    - o Creating a Chart
    - o Enhancing a chart
- *Preparing for Delivery and Using a Slide Presentation*
    - o Creating Custom Theme Colors and Background Styles
    - o Applying Animation
    - o Linking to an Online Video
    - o Using Rehearsal Techniques
    - o Controlling Display Options
    - o Presenting Using Projection Equipment
    - o Using Annotation Pens
    - o Preparing a Self-Running Presentation
    - o Packaging a Presentation to a CD or Folder

MS Access

- *Creating a Database and Tables*
    - o Understanding Database Concepts
    - o Creating and Managing a Database
    - o Creating and Using a Table in Datasheet View
    - o Exploring Datasheet View
- *Using Design View, Data Validation and Relationships*
    - o Creating a Table in Design View
    - o Setting Field Properties
    - o Understanding Data Integrity and Data Validation
    - o Integrating Data Validation in Tables
    - o Changing Field Properties After Records Are Added Into a Table
    - o Understanding and Designing Relational Databases
    - o Importing Data Records from Excel
    - o Printing the Contents of a Table
    - o Managing a Database Using the Compact & Repair Database Utility
- *Creating and Using Queries*
    - o Understanding Queries and Using the Simple Query Wizard
    - o Creating, Running and Editing a Query in Design View
    - o Adding a Criterion to a Query
    - o More Query Options
    - o Defining Multiple Criteria in a Query
    - o Creating and Using a Simple Parameter Query
    - o Adding Calculated Fields to a Query
    - o Creating and Using a Summary Query

Format of the Exam

This Proficiency Exam uses a web-based simulation program called **SIMnet**. To take this exam, you must register your credentials in SIMnet to obtain a free temporary access code. Please come to the testing center at least 30 minutes prior to your scheduled appointment to register in SIMnet and obtain the necessary access code that will enable you to take the exam.

Again, the exam has two parts: 1) **A concepts test that contains 40 multiple choice and true/false questions** and 2) A **simulation test that has 60 simulation-based questions from MS Word, Excel, PowerPoint, and Access**.

A score equal to or greater than 70% in EACH exam gives you the option of placing out of ITEC1001. Even if you pass the proficiency exam, you may still opt to take ITEC1001. Please be aware that doing well on the proficiency exam does not mean you are guaranteed a high grade in ITEC1001. All students taking ITEC1001 must complete several class assignments, projects and labs that count significantly toward the final grade in ITEC1001.

Frequently Asked Questions

Q: I took a Computing Concepts at another institution and it seems like ITEC1001 is the same course. Do I really need to take the exam? Why don't my credits from the other institution transfer over as ITEC1001?

A: ITEC1001 is a 4-credit hour course. Any Computing Concepts at another institution that is LESS than 4-credits may NOT qualify as a replacement for ITEC1001. If your Computing Concepts at another institution prepared you well enough to score high on the ITEC1001 proficiency exam, you may elect to take Digital Media and Intro. to Programming without having first taken ITEC1001.

Q: I took Computer Course X at College Y that seems very similar to ITEC1001 at GGC. Did this course transfer and give me credit for ITEC1001?

A: You'll need to log into Banner and check your Academic Transcript. If the course you took transferred over to ITEC1999 or ITEC2999, this means that you received transfer credit, but the course does not match any of the courses we offer (that is what the 999 at the end means in general, not just for ITEC classes).

 Q: My question is not answered here. Who can I contact for more information?'''

A: Contact Dr. Lorraine Jonassen (ljonassen@ggc.edu) for more information or if you have any questions.