

Summary

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Acknowledgement: Original slides provided courtesy of Dr. Lawrence.

Computer Fluency

Fluency means that you are able to **adapt to new applications** and use computers efficiently.

We have studied the **skills**, **concepts**, and **capabilities** of IT.

- ◆ Although the detailed skills may be forgotten or change over time, the fundamental concepts and capabilities allow us to learn new skills as required.

Remember, the key to being an expert user is using your past knowledge to understand how to use new systems.

- ◆ No one remembers all details and skills.

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Computer Fluency Skills, Concepts, and Capabilities

Skills are the **ability to use computers** today to solve your problems.

- ◆ You have learned new applications: Excel, Access, HTML editors, Word, GIMP, and the ability to learn new applications.

Concepts are the **fundamental principles** that apply to many situations. They are the **building blocks of future learning**.

- ◆ Key concepts: how the Internet (TCP/IP) works, how a computer works (Fetch/Execute cycle), key components of programming (HTML/JavaScript), information representation, security

Capabilities are ways to **expand your thinking**.

- ◆ **Thinking algorithmically**, reasoning, debugging, designing, creating, **searching and representing information**.

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The Big IT Ideas

The big IT ideas essentially boil down to two things:

- ◆ **Information must be properly represented on computers to be useful.**

All information is represented as bits, so knowing **the context** is essential for understanding the meaning.

- ◆ **Programs encode algorithms to solve problems.**

Algorithms represent intelligence on how to solve problems and provide the computer with the context and capability to perform all its advanced functions.

- ⇒ Computer programming is the **art and science** of solving problems on the computer.

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Computers in Society

By understanding the technology, we have a better perspective on the role and influence of computers in society.

Like all technologies, information technology can be used for positive change and negative actions.

As users, and even designers, we have a role to play in shaping the effect of technology on this world. Displaying good ethics and protecting privacy is as important as building complex computer systems.

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Lifelong IT Learning

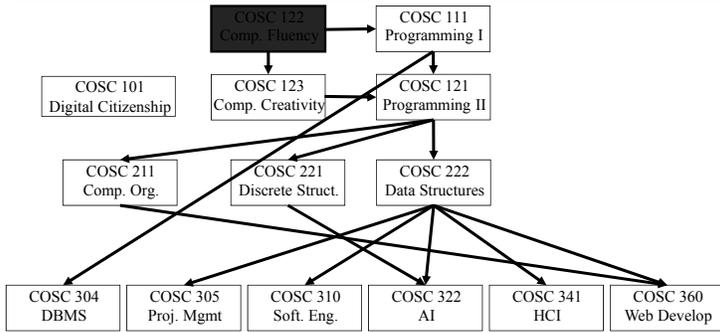
This course has prepared you for lifelong IT learning.

Computer systems and technology **will change** (the **skills**), but it is the **attitude** that is most important.

- ◆ How much information in the course will you remember?
- ◆ How much do you **need** to remember to apply the concepts?
- ◆ As an expert user, you are confident and ready to:
 - ⇒ **Learn new systems** with confidence by applying gained knowledge, experience, and **fundamental** concepts.
 - ⇒ **Ask for help** (when needed) by **understanding key terminology and components of computers**.
 - ⇒ **Evaluate new systems that may improve your productivity**.
 - ⇒ **Protect yourself in the digital world** by understanding the role, benefits, and issues of computer systems.

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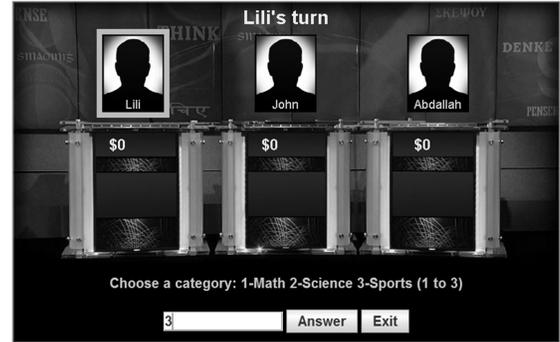
**Want more?
Where to go from here?**



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Example Object Oriented Programs

COSC 111 Project



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COSC 121: Project
Example Object Oriented Programs

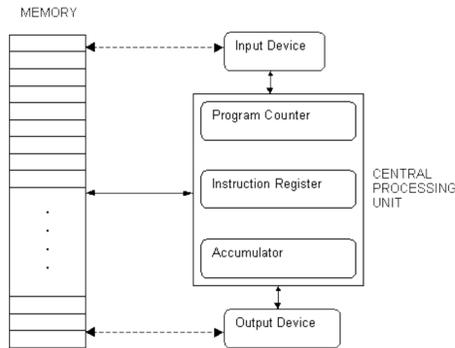


Figure 2 Computer Structure for COSC 121 Project

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Example Object Oriented Programs

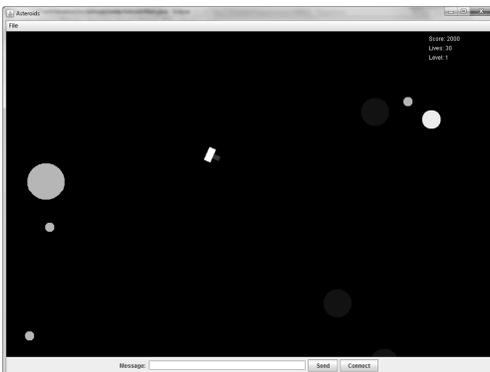
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Example Object Oriented Programs

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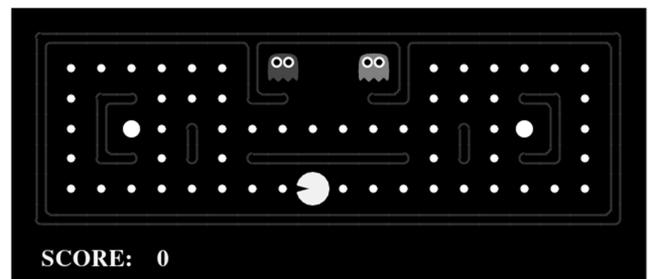


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Example Object Oriented Programs

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- ◆ In-class practice
- ⇒ only part of the game is implemented



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Example Web Development + DB

COSC 310

The screenshot shows the official website for the 2015 Canadian Undergraduate Computer Science Conference (CUCSC). The header includes the University of British Columbia Okanagan logo and navigation links for Home, About, Register, Program, Sponsors, Contact, Log In, and Français. A main banner features a cityscape and the text "Canadian Undergraduate Computer Science Conference 2015" and "July 8th to 11th". Below the banner, there is a "News" section with a headline: "The CUCSC 2015 CCE will be held at BC!!! We look forward to seeing you all there!". The main content area contains a welcome message and details about the conference, including its dates (July 8th to 11th, 2015) and location (Kelowna, British Columbia). A footer note asks users to direct questions or comments to a specific email address.

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Example Web Development + DB

COSC 310

The screenshot displays the KelownaFlix website interface. The header includes "Home" and "Log In Register" links. The main content area features a movie poster for "Interstellar" with the following details: Director: Christopher Nolan, Actors: Matthew McConaughey, Rating: PG-13, and Genre: Sci-Fi. Below the poster, there is a "User Rating: 5" section and a "Screening in:" section listing "Paramount Players 5" and "Grand 10". A "Showtimes at:" section is also present. A small video player is visible in the top right corner.

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Example Web Development + DB

COSC 310

The screenshot shows the "Super Hero's For Hire" website. The header features the text "Welcome to Super Hero's For Hire" above an illustration of two superheroes. Below the illustration, there is a login/register form with fields for "User name:" and "Password:", and buttons for "Log In" and "Register".

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Example Web Development + DB

COSC 310

The screenshot displays the "The Grid" website interface. The header includes "The Deal", "Our Stash", "Recommendations", "Cart", "Settings", and "Login" links. The main content area features a product page for "QuickSilver Young Guns" with a price of \$43.75 (66% off from \$130.51). The product description mentions "QuickSilver designed the Young Guns Men's Board Shorts for its pro team, so you know they're ready to go hard. Has Scotch Guard DWR coating to help them dry quickly between sessions." There is a "Small - Stock: 8" indicator and an "Add to Cart" button. A small image of a person snowboarding is visible in the bottom right corner.

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