Fluency With Information Technology

CSE100/IMT100

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CSE 100 and IMT 100

❖ This class is listed on the UW registration system as both CSE 100 and IMT 100 for the lecture and quiz sections.
❖ There is just one class – it doesn't matter which one you are registered for.
❖ Class is currently full. We aren't doing overloads, but there might be a few drops – if you are not registered and want to be, attend class this week and check again with STAR to see if there is space.

Fluency

Fluency with information technology is a new concept derived from a National Research Council study on “What everyone should know about information technology”
❖ The committee abbreviated “fluency with information technology” by FIT, and being fluent as FITness
❖ FITness replaces “computer literacy” with knowledge that has “staying power” for the rapid changes in information technology
This class is not what you need to know about IT … it’s what you need to know to learn what you need to know about IT

Perspectives on Scale

❖ On 7 July 1999 Moroccan Hicham El Guerrouj ran a mile in 3 minutes 43.13 seconds, 1.26 seconds better than Noureddine Morceli
❖ El Guerrouj “smashed” “eclipsed” “shattered” record
❖ Roger Bannister broke the “4 minute mile barrier” in 1954 with 3:59.4
❖ As a rate this is an astonishing improvement in 45 years from 15.04 mph to 16.13 mph, or 7%
Normal People & The Mile Run

❖ On average people in their early 20s can run a mile in about 7:30, or about twice the time it takes El Guerrouj.
❖ This factor-of-2 difference between average people and world record holders is typical for physical activities like running, jumping, swimming, etc.
   ❖ No matter how hard we try, we can improve by at most a factor-of-2.

Scale of Advancement ...

❖ The Wright’s Flyer 1 flew so slowly that the brother who wasn’t piloting ran along side …
   ❖ Suppose that implies a speed of 10 mph.
❖ NASA says the SR-71 Blackbird, a reconnaissance aircraft, flies at least 2200 mph.
   The Blackbird is faster than Flyer 1 by a factor-of-220 times or so …

Computer Speeds

❖ The 1951 UNIVAC I performed 100,000 additions per second.
❖ IBM’s Think Pad laptop does 500 million adds per second, a factor-of-5000 over UNIVAC I.
❖ Intel’s custom ASCI Red computer built for Sandia National Labs holds the world record at 2.1 trillion (floating point) additions per second.
   ❖ ASCI Red is a factor-of-21,000,000 times faster than UNIVAC I.

Scale of Advancement ...

❖ We can comprehend …
   ❖ El Guerrouj’s factor-of-1.07 over Bannister;
   ❖ El Guerrouj’s factor-of-2 over average 20 year old;
   ❖ Possibly Blackbird’s factor-of-320 of Flyer 1.
❖ Can we comprehend a factor-of-21,000,000? Or even a factor-of-5000?
Had El Guerrouj improved on Bannister by a factor-of-21,000,000, he would have run the mile in 11.4 microseconds.

Keeping Up Through Fluency

❖ Fluency is designed to teach you the fundamentals, mostly by hands-on practice.
   ❖ Skills -- Email with PINE, Web browsing with Netscape, MS Word, MS Excel, MS Access and work with UW databases, Dr. Solomon virus protection …
   ❖ Concepts -- workings of computer, networks, encryption, digital encoding, programming and algorithmic thinking, effective searching …
   ❖ Capabilities -- logical reasoning, debugging, testing, thinking abstractly about technology, managing complexity …
❖ This knowledge should be useful throughout college and throughout life.

Is FIT 100 Right For Me?

❖ Fluency acquisition takes a significant amount of time in the lab.
❖ Students in Spring 1999 thought …
   ❖ FIT100 was very valuable
   ❖ Expanded their thinking
❖ Options …
   ❖ To learn specific skills like making a Web page, see UWired.
   ❖ If you are a “techie” or have significant experience with computers, plan on taking CSE142.
   ❖ CSE100/IMT100 will next be offered in Spring 2001.
FIT 100 Class Structure
❖ Three lectures per week
❖ Two lab sections per week
❖ Few formal testing situations
   ❍ 4 short in-class quizzes
   ❍ Short (< 1 hour) final
❖ Projects and assignments are the basis for most grades … use of “ternary system” will be common
   "0" – nothing turned in, incomplete, unsatisfactory
   "1" – satisfactory completion
   "2" – truly extraordinary (rare)

FIT 100 Specifics ...
❖ Text books
   ❍ Lawrence Snyder, Fluency With Information Technology, Professional Copy 'N Print, 4200 University Ave
   ❍ Kerman & Brown, “Computer Programming Fundamentals with Applications in Visual Basic 6.0”, Addison-Wesley
❖ Instructors:
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FIT 100 Vocabulary
❖ What is “information technology”?  Information Technology (IT) is the totality of computers, networks and communication, software, information resources etc.

There will be a huge number of new terms used in this class. They will generally be defined when they are first used, but if not … ask! [Use your whistle!]
The surest way to be successful in FIT100 is to understand the terminology

Factoid: "email" is the Czech word for enamel

FIT 100 To Be Successful In FIT100 ...
❖ Attend classes and labs religiously
❖ Ask questions when you don’t understand something
❖ Start assignments early … even if you do only a small amount
❖ Ask questions when you don’t understand something
❖ Look for resources from Web page http://www.cs.washington.edu/100/
   email archive, classmates and TAs
❖ Ask questions when you don’t understand something
❖ Spend some time each day in the lab
❖ Ask questions when you don’t understand something

FIT 100 Assignment 0
Assignment 0 is to help you to familiarize yourself with the basics of email and the web at UW
❖ For this assignment you can get help from a friend, a lab consultant or President McCormick
❖ Steps 1-5 of Assignment 0 are due before your first lab meeting
❖ Steps 6-9 of Assignment 0 is due before class on Wednesday
   We ask you to get your UWNetID on your own and to learn to send email on your own because it's really easy to do (follow the instructions on the sheet or ask a friend for help), and once you have done it you will be on your way towards using IT independently

If it seems too daunting, please see me at my office 409 Sieg Hall.
Gilligan’s Island Rule

❖ You may work with anyone provided you don’t take a written record away from the meeting … including notes, electronic notes, white/black board, etc.
❖ Indulge in at least 1/2 hour of mindless activity before doing your task … Gilligan’s Island is a 60s TV show that set the standard for mindlessness

   The goal is to assure that the work you create uses your own brain, unassisted.
❖ Note who you worked with on your assignment

Summary

❖ Welcome to FIT100
❖ It’s a fun class where you learn a lot of things that you can apply immediately, later in college and throughout life
❖ Don’t forget —
   ❖ Homework due for tomorrow’s lab