CMSC104

Problem Solving and
Computer Programming
Spring 2010

Section 02 & 03
Mr. Dennis Frey

Contact Information

- Who am I?
  - Dennis Frey
- Best way to contact me?
  - Email! frey@cs.umbc.edu
- Office hours:
  - Where? ITE 209
  - When? Tuesday and Thursday
            11:30 a.m. - 12:30 p.m.
          Monday and Wednesday
            2:30 p.m. - 3:30 p.m.

Am I in the Right Class?

○ CMSC 104
  - Assumes NO programming experience
  - Prepares you for CMSC 201
  - Does NOT count directly towards the CS major
  - Meets a requirement for other majors: i.e. Physics, Financial Economics

○ CMSC 201
  - Assumes some programming experience
  - First CMSC course for CS majors
  - MUCH more challenging

CS Minor Requirements

○ Total of 23 credits (7 classes)

○ Required courses:

- CMSC 201 – Comp. Sci. I for Majors
- CMSC 202 – Comp. Sci. II for Majors
- CMSC 341 – Data Structures
- CMSC 203 – Discrete Structures (can use MATH 301 instead)

CS Minor Requirements cont.

- Elective courses (9 credits):
  - 1 – 3 courses chosen from CMSC4xx
  - 0 – 2 courses chosen from:
    - CMSC 313 – Computer Org & Assembly
    - CMSC 331 – Principles of Programming Languages
    - MATH 221 – Linear Algebra
- Some example combinations:
  - CMSC313, CMSC331 and CMSC433
  - CMSC461, CMSC471 and CMSC472
  - CMSC461, CMSC331 and MATH221

CS Gaming Track

- Web site: gaim.umbc.edu
- Not a separate degree just a "track" within the regular CS B.S. program
- Must complete all regular CS B.S. requirements plus…
- **Science courses must include**
  - PHYS 121: Introductory Physics I
- **GFR/GEP courses must include**
  - ART 380: History and Theory of Games (new course)

CS Gaming Track cont.

- **CMSC 400-level electives must include**
  - CMSC 435: Computer Graphics
  - CMSC 471: Artificial Intelligence
  - CMSC 493: Games Group Project (new course)
  - and two of the following
    - CMSC 437: Graphical User Interface Programming
    - CMSC 445: Software Engineering
    - CMSC 455: Numerical Computation
    - CMSC 461: Databases
    - CMSC 481: Networks
    - CMSC 483: Parallel Processing
    - others with permission (contact olano@umbc.edu)

What Will We Cover?

- General computer hardware and software concepts
- Basic computer use
- Problem solving
- Basic computer programming in the JavaScript programming language

1. General Hardware and Software Concepts

- Introduction to computer architecture
- Data representation and memory usage
- Introduction to operating systems Linux

2. Basic Computer Use (New software for most of you!)

- Basic use of
  - an operating system (Linux)
  - e-mail (pine)
  - a Web browser (Firefox)
  - a text editor (XEmacs)

3. Problem Solving

○ Problem solving and algorithm development

- general vs. specific solution to a problem
- use of top-down design
- use of pseudocode

4. Basic Computer Programming

○ Creating and executing a computer program

○ Testing and debugging a computer program

○ JavaScript programming language basics

○ Introduction to other programming languages

Course Information

- On the Web:

  www.cs.umbc.edu/104

- Follow links to Spring 2010 then Section 02 or 03

- Refer to the site throughout the semester (e.g. Announcements on main page)

Getting a myUMBC Account

- You MUST have a myUMBC account
- If you do not already have one, you can get one by going to:
- http://accounts.umbc.edu (NO www.)
  - Your account can be used in approximately ½ hour
- We will discuss how we are going to use it in future classes.

Computer Science at UMBC

- CSEE Student Services Office (Advising)
  - ITE 203 - 206
- CSHC (Computer Science Help Center)
  - ITE 201E
- Linux Users Group (LUG)

  - http://lug.umbc.edu
- Computer Science Council of Majors (CSCM)

  - **President**

    Matthew Kalkbrenner mkalk1@umbc.edu

OIT Labs

- The Office of Information Technology is responsible for all lab computers.
- On Web at: www.umbc.edu/oit
- Labs with PCs:
  - ENG021, ENG104, ENG122, ENG122A, ENG333
- Labs may be on reserve for classes, so plan ahead!
- Print Dispatch -- ENG 019 (10? cents/page)
- Hours of Operations
  - OIT will post outside of labs or go to:

    http://www.umbc.edu/oit/classroomtechnology/labs

Consultants vs. Tutors

- OIT labs are staffed by consultants
  - using software (pine, Firefox, etc.)
  - some text editors (XEmacs)
  - operating system commands (Linux)
  - communicating with UMBC computers (TeraTerm)

Consultants vs. Tutors (con't)

- CSHC is staffed by student tutors
  - Help with homework and projects
  - XEmacs and Linux questions
  - ITE 201E – Hours TBA – help might be limited this semester.

Hardware and Software Needs

- Do I need my own computer?
  - No, but it is more convenient for you.
- If I have my own computer, can I use it?
  - Sure, but you will use it mostly to log in to your account or for word processing.
- Do I need to install Linux?
  - No, you will be able to do your work in Windows.

Using Your Own Computer: SSH

- We will discuss this in much more detail in future classes. You do not have to download anything at this point!!
- TeraTerm is a software communications program
- Must be connected to the Internet to use
- Two sources for TeraTerm software:
  - OIT CD
  - Web: http://www.umbc.edu/oit/software
- Consult OIT for help

Getting to Know You

- This class has students from many different backgrounds and majors.
  - ~15 different majors
- I'd like to find out a little bit about what you know. Please take out a sheet of paper.
  - Name, Major, and Year
  - Why are you taking this class?
  - Something you would like me to know about you…