CMSC104

Problem Solving and Computer Programming
Spring 2010

Sections 1 and 4

Donald C. Dimitroff

Contact Information

- Who am I?
  - Donald C. Dimitroff, M.Ed., M.S.E, M.S.
- Best way to contact me?
  - Email: dondim1@umbc.edu
- Office hours:
  - Where? ITE 225
  - When? Monday and Wednesday
    3:45 pm – 5:30 pm
    or by appointment
    x53928 (410-455-3928)

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 C Programming

Course Information

- On the Web: type the following in a web browser, all on one line

  www.csee.umbc.edu/~dondim1/104/cmsc104.html

- Refer to this site throughout the semester
  - Announcements
  - Due dates
  - Assignments
  - Changes

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 (NOTE: No www.)
  - Your account can be used in approximately ½ hour after registering
- 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: https://spaces.umbc.edu/display/oit2/Lab+Locations

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: https://spaces.umbc.edu/display/hd2/Software+Information+(Download)+Overview
- 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...