Concepts for Advanced Computer Usage

Computer Science 200
Spring 2020

Barbara Daly

CS 200

Essential Information

This document is required reading.

Ignorance of its content will not exempt you from any course requirement.

Best viewed in Adobe Acrobat.

Course Staff

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Course Communication

E-mail:

- When sending us e-mail, please start the subject line with "CS200..." (for easier filtering and faster email response).
- Avoid using hotmail, gmail, yahoo, *etc*, which are more likely to be intercepted by spam filters.
- CS200 staff will use your UW account (userid@uwaterloo.ca) if we need to contact you, to ensure that we do not release private information to a third person.

(This is university policy.) If you wish, you may arrange for email sent to your UW e-mail account to be forwarded to an account of your choosing—see https://ego.uwaterloo.ca/~uwdir/Update

It is your responsibility to ensure that e-mail can be received at the forwarded address. In all cases, ***you are expected to check your e-mail at least once a day*.**

Course Communication Cont'd

Learn:

Learn announcements and all course material will be found in Learn.

Twitter:

Course updates and reminders will be tweeted from @CS200uWaterloo. We will discuss the use and effectiveness of this social media tool throughout the term.

If you do not have twitter, the tweets can be seen on the **Learn Announcements** page.

Pinterest:

Interesting articles or useful instructional videos can be found at our Pinterest account:
https://www.pinterest.com/cs2000143

Microsoft Teams:

We will be using this platform for discussions, newsgroups and one on one appointments.

Zoom:

Zoom will be used for some office hours and larger tutorial type settings.

Course Organization (Lectures)

"Lectures" focus on important and/or difficult concepts

- learn straightforward material on your own

"Attendance" is mandatory

- you can't expect to do well without reading and listening to the modules
- there are no useful textbooks

Lectures will usually be a mixture of

- things you know & things you don't know

Take Notes

Write Questions

The following article discusses students' learning abilities if handwritten notes are taken:
http://bit.ly/1sRqGBL

Take notes

- these slides are only an outline — they don't stand alone

Review your notes promptly

- to fix concepts in your mind
- to formulate questions—not everything is immediately obvious...
- high-light key material

Social Media

In many lectures, we will briefly look at something discovered in social media or ethics of technology that has a powerful impact on our society and day to day lives.

We will be using Twitter and Pinterest as a means of course communication.

@cs200uWaterloo

Assignments

Weekly through Week 13

- Due Mondays at 11:59 PM unless otherwise stated.
  Generally returned by Monday of the following week.
- Some questions are individual, but some questions can be done with a partner. Be sure you understand what your partner does!

Marking questions / mistakes

- must be raised within two weeks of return

Late Policy

- 10% per day, but no later than the Wednesday at 11:59 following the original due date.
- If your assignment is late, marking it has minimal priority

BUT, you have 5 free slip (aka “late”) days for emergencies or whatever (your choice)

- distributed across assignments as you wish
- use them wisely, and don’t expect more!

Things You Need For This Course

- *The Mac is Not a Typewriter* by Robin Williams
- *The Non-Designer's Design* Book by Robin Williams
- *CSS Handbook* (recommended)
- *Learning Web Design* by Jennifer Niederst (recommended)
- to come to class

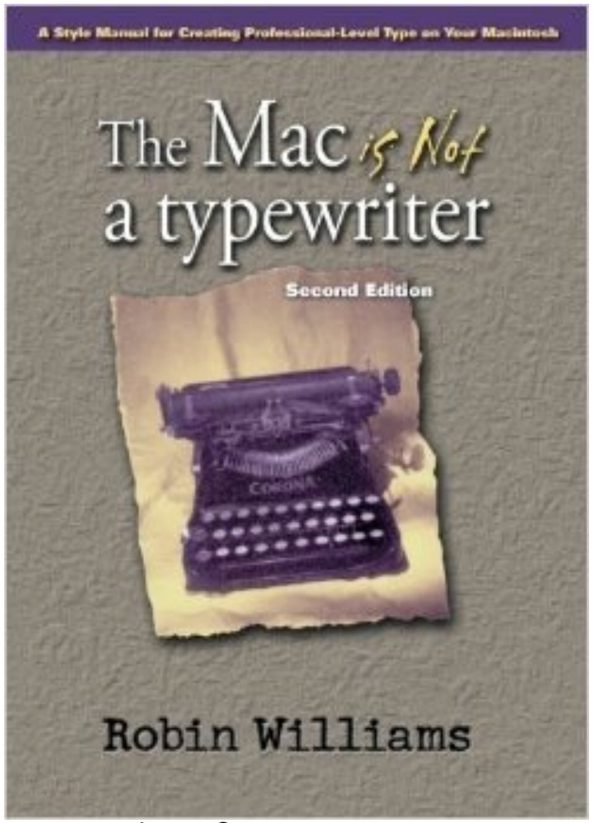
Required Books

***The Mac is not a Typewriter*, 2nd Ed, Robin Williams**

- you should have this read during the first week of class & labs, before A1 is due (next Tuesday) (it's not long)
- details proper word processing techniques and format
- helpful whether you use Mac or Windows

***The Non-Designer's Design Book*, 4th Ed, Robin Williams**

- you will need this to complete A1 as well
- principles of design and typography



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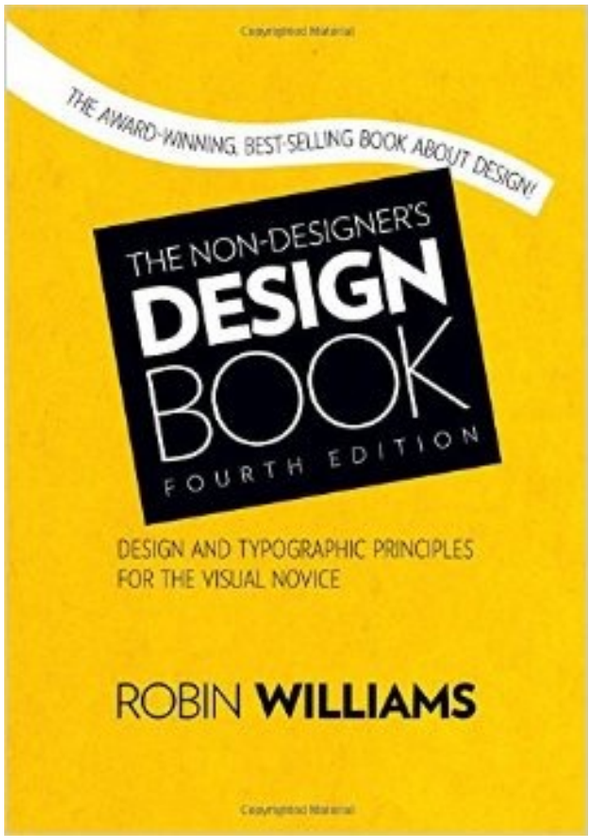

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Tests

The term tests

- June 5th
- June 26th
- Aug 5th

Exams emphasize concepts

- mostly short essay questions
- + a few fact-testing questions
  - eg assignment- & lab-based questions
- + a few keyword definitions

50 – 75 % of the essay questions

- will be from the CS200 Study Questions on Learn
- with minor modifications / substitutions

Understand technical terms (weekly keywords)

- so you understand the questions
- posted to the Keywords discussion board on Learn

Course Outline

Week 1	**(May 11):**	**Course Intro & Word Processing (MS Word)**
Week 2	**(May 18):**	**Styles in Word Processing (MS Word)**
Week 3	**(May 25):**	**Pixel Graphics (GIMP)**
Week 4	**(Jun 1):**	**Geometric Graphics (Inkscape)**
	(June 5):	**Test #1 (Word Processing and Styles)**
Week 5	**(June 8):**	**The Web, HTML, CSS & Forms (TextWrangler)**
Week 6	**(June 15):**	**Application Scripting (MS Excel)**
Week 7	**(June 22):**	**LinkedIn**
	(June 26):	**Test #2 (Graphics and HTML)**
Week 8	**(June 29):**	**Database Intro**
Week 9	**(July 6):**	**Database Fundamentals (SQL)**
Week 10	**(July 13):**	**Database (FileMaker)**
Week 11	**(July 20):**	**Application Scripting (FileMaker)**
Week 12	**(July 27):**	**Review**
Week 13	**(Aug 5):**	**Test #3 (Excel and Databases)**

+ weekly snippets on:

system management, hardware, social media, pearls (know these by heart!)

Marking

Discussions/Online Participation		**~ 5%**
Assignments		**~ 50 %**
Testing		**~ 37.5 %**
Test 1	~ 12.5%	
Test 2	~ 12.5%	
Test 3	~ 12.5%	
Final Assignment		**~ 7.5 %**

The course marks will be adjusted if appropriate

You must pass the combined weighted tests to pass the course.

You must pass the assignment portion of the course to pass.

- if you fail the combined weighted mark of your tests your course mark is this mark
- The testing is 3 term tests over the course of the term, weighted appropriately.

Administrativia (1)

Course notes are no longer available, but relevant support documents are on Learn. They contain:

- Introduction to the Course Environment
- Readings
- Reference material
- Study questions
- Sample exams
- and other useful material

The course message board is located at

learn.uwaterloo.ca

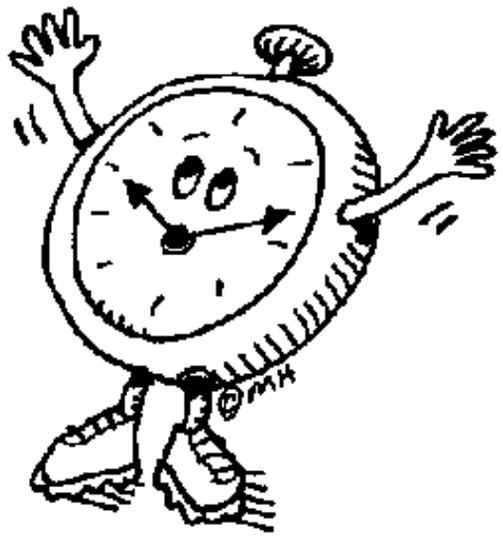
The course web site (“cws”) is located at https://www.student.cs.uwaterloo.ca/~cs200/.
It contains

- staff contact info
- lecture slides for the current term
- assignments for the current term
- sample exams
- pearls

Administrativia (2)

The first assignment is due next Tuesday May 19th at 11:59 pm

Office Hours and Discussions start this week.



Expectations

Our job

- is to pick the right things for you to figure out

Your job

- is to figure them out!

Answering questions

- often we'll suggest how to figure out the answer rather than just telling you

— *learning how to figure things out is more important!*

Previous Experience Summary

CS200 students are assumed to have acquired the knowledge imparted by CS 100 or from some other source. Here's a capsule summary of highschool content and assumed knowledge.

What is a computer?

- the naming of parts

Word Processing

- editing, word wrap, "non-printing characters"
- character, paragraph, & document attributes

Spreadsheets

- cells, cell addressing, cell formulas, cell formatting
- named ranges

Simple Programming Concepts (will be reviewed when appropriate)

- variables, assignment statements, if-statements, loops
- procedures & functions
- input & output

Networking and Telecommunications

- e-mail
- the internet

Problem solving with a computer

- "If somebody were to drop you into a chair in front of Word, Excel, or FileMaker, you could use it effectively to do the usual sort of thing"

CS200 Summary

Given that you've acquired the requisite background, here's a summary of CS 200's objectives:

- Learn how to use computers efficiently;
  learn how to *learn to use* computer applications efficiently
    - *give a man a fish, feed him for a day;*
      teach a man to fish, feed him for a lifetime
- The goal:
    - That you emerge a knowledgeable, efficient user of computer technology, able to
        - *learn new applications efficiently*
        - *purchase and maintain your own PC*
    - where "maintain" means
        - *install new software*
        - *connect new hardware*
        - *maintain file systems*
        - *localize problems*
        - *explain problems to a technician*
- Computers are not the point of CS200;
  using computers *well* to do interesting and useful things is the point.

CS200 Emphasis

The emphasis in CS200 is on important concepts

- that transcend particular applications / platforms
- that help you learn and work efficiently

There is considerably more emphasis on process, and less on facts, than in CS100

- learning on your own
- learning by doing
- methodologies for learning

**You should come to think of applications as tools,
and expect that most jobs will require moving data between several applications**

Quality is important, too, though it's not our primary emphasis. (CS300?)

More on CS200 Assumptions — Background

You are assumed to have some computer science or basic application experience

- Everyone will have a bit more here, a bit less there.
- You are expected to pick up missing pieces on your own.
- (See us for suggestions.)

CS200 Assumptions — Environment

Your computing environment will change rapidly for the foreseeable future:

- new & faster hardware, sometimes requiring new versions of your software
- new releases of software you're already using, containing new features and sometimes with a changed interface
    - typically at least once per year

And you're often forced to upgrade software because vendors don't support older versions.

You will be more confident buying and maintaining your own PCs

- your company's IT people won't make house calls...

So you need to know a bit about

- hardware
- operating systems
- "file systems"

and become familiar with the standard trade journals

- MacWorld www.macworld.com
- PC Magazine www.pcmag.com
- PC World www.pcworld.com
- etc...

in which you will find product reviews and tutorials.

So ... should you take CS200 this term?

See (also) the cws at

https://www.student.cs.uwaterloo.ca/~cs200/

for

- a discussion of the background expected for CS200
- a discussion of course goals
- a sample midterm
- a sample final
- a sample lab exam

especially the page "About / Should I take CS200?"
https://www.student.cs.uwaterloo.ca/~cs200/About.html#GoToShouldTake200

Take CS200 because

- you are excited to learn something new
- your goals are to extend your learning of things you already know

Cooperation

Cooperation with respect to ideas is encouraged

but ...

- you punch your own keys, and
- you do not copy other people's/group's assignments

Thus it's okay to discuss how to do something in general terms (ie *concepts*), but not to

- copy/paste another person's answer for an assignment
- or to just type it in

If you're not sure what's appropriate

- ask us, and/or
- state the nature of your cooperation on the assignment

Cheating

From the CS Curriculum Committee:

> Students should be aware of the seriousness of cheating and the penalty associated with it. The standard penalty for cheating will be the assignment of a grade of 0 for the assignment, test, or exam in question, with a minimum deduction of 5% from the final course grade. All such incidents will also be reported to the Associate Dean (Undergraduate Studies) of the student's faculty.
>
> Cheating includes copying from another student's work *or allowing another student to copy from one's own work*, consultation with any unauthorized person during an examination or test, and use of unauthorized aids. University policy regards plagiarism or copying as an academic offense. All material submitted for marking must be the original work of those students submitting the material. A student's signature on an assignment or exam certifies that the material is the student's work and that it does not contravene the University regulations concerning plagiarism, copying or other academic offenses.
>
> It is understood that there will be "gray area" cases in which less than the standard penalty will be appropriate and that in extraordinary cases, heavier penalties, such as suspension or expulsion, may be sought through the appropriate Faculty committee.

How To Do Well in CS200 (1)

Listen to the recordings provided and follow along with the corresponding slides provided

- review your lecture notes within a day of each lecture
- high-light key phrases
- identify what you don't understand

Read assignments carefully (preferably more than once!)

- high-light key phrases

DO the assignments!

- & understand what your partner does, when you have one

Practice the pearls

Think about what you're doing

Think about how you're doing it

If assignments consistently take too much time

- talk to an ISA or instructor

How To Do Well in CS200 (2)

Review the sample lecture exams *this week*

Ask questions!

- they're the best way for us to find out
  - what we've failed to explain
  - whether you understand something
  - that you're especially interested in something
- use office hours
- sometimes the instructor will pause during lecture
  - to let an idea bounce around in your head
  - to give you a chance to ask a question if,
    as an idea bounces, you're unsure about something

There is typically a short Q & A at the beginning of each lecture

Working At Home

You are welcome to do so, but

- some things will be explained only in lab
- that's where we'll help you learn how to learn

If you work at home

- it is **your** responsibility to ensure, ahead of time, that your files can be opened and read in the lab
- eg: check application versions & file formats

All software used is available on both Macs & PCs

- eg: through the University computer store (for a price...)
- eg: Excel, FileMaker, MySQL, Gimp, Inkscape, Word

"Pearls"

We will discuss seven pearls

- one every week or 2

You are expected to know and understand all of them

There is ALWAYS a pearl question on the midterm and final

See "Course Materials / Pearls" on the cws

But perhaps one size doesn't fit all?

- would your list be different?
- *think about this as the term progresses*

More generally,

- as you work on assignments, periodically ask yourself
  - "how could I work more efficiently?"
  - "how can I motivate myself to ..."