

Concepts for Advanced Computer Usage

Computer Science 200
Fall 2015

Barbara Daly

CS 200

Essential Information

This document is required reading.
*Ignorance of its content will not exempt
you from any course requirement.*

Course Staff

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Course Communication

E-mail:

When sending us e-mail, please start the subject line with "CS 200..." (for easier filtering and faster email response)

Avoid using hotmail, yahoo, *etc.*, which are more likely to be intercepted by spam filters.

CS 200 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>

If you do, 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.

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 fee can be seen on the Learn Announcements page.

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 attending lectures

there are no useful textbooks

please be on time!

Lectures will usually be a mixture of

things you know & things you don't know

Classroom Etiquette

Please do not bring/use laptops in class. They are distracting to yourself and others and you will be able to focus on material and important information better.

The following article discusses students learning abilities if handwritten notes are taken.

<http://bit.ly/1sRqGBL>

Lecture Strategies

Lecture slides

The slides for each lecture will be available via the “Content: Fall 2015 Lectures” on the CS200 learn.uwaterloo.ca site by 4:00 on the day before lecture. A revised version, fixing any typos discovered during lecture, will be posted by 18:00 on the following day. Other class handouts, if any, will be available in the same location.

The previous term's slides are also available in the Content page of Learn.

These slides are an outline of each lecture; you will need to supplement them with your own notes. They are not a substitute for coming to lecture!

Lectures will also be available from the course website:

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

Take notes

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

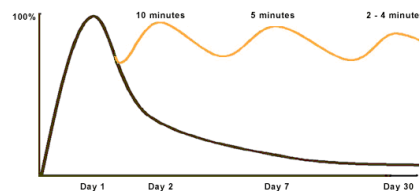
Review your notes promptly

to fix concepts in your mind

to formulate questions

— not everything is immediately obvious...

high-light key material



Social Media

Each lecture 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 .

We will be utilizing Twitter and Pinterest means of course communication.

Organization (Labs)

Platform

Macs

Where

in MC 2062/3 (scheduled labs)
on your own machine
(most CS 200 apps are cross-platform)

Lab material will guide your learning

but not — usually — step-by-step

Labs are a mixture of

lecturettes, which typically happen at the beginning of the lab
demos
supervised work on assignments

Assignments

Weekly through Week 12

Due Tuesdays at 9:00 am unless otherwise stated.
Generally returned in the first lab of the following week.

Some questions can be done in groups of two.
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 Friday 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!

Examinations (1)

The midterm:

The week of October 26 at 10:00 am (in lecture)

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 CS 200 Study Questions on Learn
with minor modifications / substitutions



Examinations (2)

Understand technical terms (weekly keywords)

so you understand the questions

posted to the Keywords discussion board on Learn

Lab Final

near the end of the lecture period

the lab exam primarily tests your ability

to master new features in familiar applications efficiently

to master new applications efficiently

though of course it assumes you've absorbed the course material

Read the sample exams in the course notes or online *the first week of classes* so you'll know what to expect

Course Outline

Week 1	(15 Sept):	Course Intro
Week 2	(22 Sept):	Styles in Word Processing (MS Word)
Week 3	(29 Sept):	Pixel Graphics (Adobe Photoshop)
Week 4	(6 Oct):	Geometric Graphics (Adobe Photoshop)
Week 5	(13 Oct):	Database Introduction (FileMaker)
Week 6	(20 Oct):	Application Scripting (MS Excel)
Week 7	(27 Oct):	Midterm
Week 8	(3 Nov):	The Web, HTML, & Forms (PageSpinner)
Week 9	(10 Nov):	Database Fundamentals (SQL)
Week 10	(17 Nov):	Advanced Database (FileMaker)
Week 11	(24 Nov):	Application Scripting (FileMaker)
Week 12	(1 Dec):	Exam Prep and Lab Exam

+ weekly snippets on

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



Marking

Assignments	~	25 %
Lecture Midterm	~	25 %
Lecture Final	~	30 %
Lab Final	~	20 %

The course marks will be adjusted if appropriate

You must pass the lecture final to pass the course

if you fail the final exam your course mark is your final exam mark

Administrivia (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	pearls
access to your marks	FAQs
sample exams	list of books on reserve in the library
example projects from previous terms	hints on taking notes
lecture slides for the current & previous terms	assignments for the current & previous terms

Administrivia (2)

The first assignment is due next Tuesday

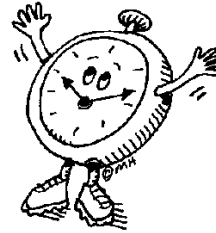
(22 September 9:00 am)

Labs start this week

“CS 200 — Introduction to the Course Environment” on Learn

Schedule:

Section 101 : 2:30pm - 4:20pm, Tues & Thurs



Administrivia (3)

Handin codes — eg 101DalB

your section number (101 this term)

followed by the first 3 characters of your last name (eg Dal, from “Daly”)

followed by the first character of your first given name (eg B, from “Barbara”)

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 (1)

CS 200 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

variables, assignment statements, if-statements, loops

procedures & functions

input & output

Assumed Knowledge Summary (2)

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”

CS 200 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 CS 200;
using computers *well* to do interesting and useful things *is* the point.

CS 200 Emphasis

The emphasis in CS 200 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 CS 100

- 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. (CS 300?)

More on CS 200 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.)

CS 200 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 need to buy and maintain 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

- • •

in which you will find product reviews and tutorials.

So ... should you take CS 200 this term?

See (also) the cws at

- <https://www.student.cs.uwaterloo.ca/~cs200/>

for

- a discussion of the background expected for CS 200

- a discussion of course goals

- a sample midterm

- a sample final

- a sample lab exam

- last term's lecture overheads and assignments

- (some of these require Adobe Acrobat Reader)

especially the page "descriptions > Should you take CS 200?"

Take CS 200 because

you are excited to learn something new

your goals are to extend your learning of things you already know

UNIVERSITY OF
Waterloo

Search

CS 200 pages

All of UW

Search

CS 200 Concepts for Advanced Computer Usage

CS 200

About CS 200

Should I Take CS 200

Information

Course Personnel

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Lecture/Lab Schedule

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Pearls

System Management

Sample Exams

Fall 05 Midterm

Fall 05 Lecture Final

Winter 98 Lab Final

David R. Cheriton

School of Computer Science

Should You take CS 200?

Background needed

CS 200 is intended for non-math-majors who already feel comfortable working with standard personal computer applications such as

- Word (a word processor)
- Excel (a spreadsheet)
- FileMaker (a relational database)
- Internet Explorer (a web browser)

Experience with any common application in each category is sufficient, but you should not lack experience in more than one category, and should plan to make up any such lack by independent study during the term.

CS 200 is a sequel to [CS 100](#), so before taking CS 200 you should either have taken CS 100, or have covered roughly the same material by some other route. In particular, *CS 200 is not a substitute for CS 100*. However, people with substantial computer experience in high school may not need to take CS 100 first.

What's the difference between CS 100 and CS 200?

What's CS 200 all about?

Cooperation

with respect to ideas is encouraged

but ...

you punch your own keys

& you do not copy other people's/group's assignments

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

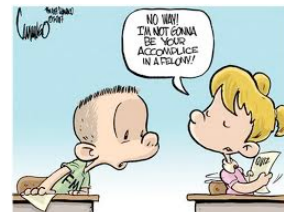
copy/paste another person's answer for an assignment

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 CS 200 (1)

Attend lectures & labs

- 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 CS 200 (2)

Review the sample lab & 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 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-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

Most software used is available on both Macs & PCs

eg: through the University computer store (for a price...)
eg: Excel, FileMaker, FrameMaker, Illustrator, InDesign, MySQL, Photoshop, Word

It is easiest to use a USB stick or a remote file service like Dropbox to transfer files between home and the lab.

“Pearls”

We will discuss seven pearls

one / week or 2

You are expected to memorize (as well as understand) them

There is ALWAYS a pearl question on the midterm and final

See “lectures > 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 ...”

The Model Pearl

Application “data objects”

what you manipulate

eg Tables in a word processor, ...

we’ll see several more examples later today as we discuss pixel graphics

The application’s interface

how you manipulate those data objects

what operations are grouped in each menu?

are there interaction techniques used often & consistently?

eg click-down-drag-release to select a range of contiguous objects

eg shift-option-click repeatedly to select multiple discontinuous objects

eg command-S to save the current document

are there icons used consistently to represent analogous operations?

eg

