CS253: Software Development in C++
Fall 2017

Introductions
• Your Professor: Bruce Draper
  – Office: 442 CSB
  – Email: draper@colostate.edu
  – Pronouns: he, him, his
  – Office hours: TBD

• Your TAs
  – Jason Yu
  – David White
  – cs253@colostate.edu
  – Office hours: TBD

Lecture 01:
Why Take CS 253?
August 22nd, 2017

Why are you here?
• My goal this week is to answer this question
• …but you have a quiz due Thursday morning, so first we need to cover
  – Workload & Grading
  – Resources
  – Expectations

Graded Class Components
• Quizzes (9%)
• Recitations (11%)
• Midterms (20%)
• Final Exam (20%)
• Programming Assignments (40%)

To get a grade of C or better, you must have a total weighted score of 70 or better AND scores of 65 or better in both the programming assignments and the tests (midterms & final)

Reading
• The Weiss text is mandatory.
  – The quizzes are based on it
  – Text is detailed; lectures provide context
  – Text is shallow; lectures provide depth
  – Text is old; lectures do some updating
  – Supplemented by instructor’s notes

• You also need a C++ reference
  – Either the Stroustrup text (good explanations, $)
  – Or www.cplusplus.com (easy lookup, free)
  – Please do not use other C++ web sites as references
Quizzes
- There will be quizzes on the reading.
  - Lectures presume the reading is done!
  - 9 quizzes over the semester
- The quizzes are on-line via Canvas.
  - Due dates already on canvas
  - Quiz names match the chapter name in Weiss
- You may take a quiz only once.
  - You have 15 minutes
  - You must begin quiz at least 15 minutes before lecture.
- Quiz #0 is due before lecture this Thursday

Recitations
- Recitations begin today (Aug. 22nd)
  - Recitations are mandatory & graded
    - 1:00, 3:00, 4:00 Tuesdays, 4:00 Wednesday, 8:00 (AM) Thursday
  - Recitations are at seating capacity (except Thursday)
    - Attend the one you signed up for
    - If unsure, check Aries Web
- Recitations do not recapitulate the lectures.
  - They introduce software development tools needed for assignments
    - Unix, debuggers, profilers, unit test frameworks, etc.
  - An exercise is due at the end of most recitations.
    - Note: Canvas says recitations are due at the end of the week: they are due at your scheduled recitation!

Tests
- Midterms tentatively scheduled for
  - Tuesday, Sept. 19th
  - Tuesday, Oct. 31st
- Final definitively scheduled
  - Monday, Dec. 11th, at 9:40 am
- Each midterm is worth 10% of final grade
- The final exam is worth 20%

Test Style
- Tests are combination take-home/in-class
  - On the Thursday before a midterm/final, I will hand out code
    - The code will be missing a main function
    - Take it home: read it, run it, modify it
    - The in-class test asks questions about that code
  - Tests are also very hard
    - Median scores around 50%
    - Don’t panic – grades are curved

Programming Assignments
- There will be roughly 10 assignments.
- Assignments build on each other –
  - The 2nd extends the 1st, etc.
  - You can’t skip one.
- You are told what to do – not how.
  - Figuring out how is part of what you must learn.
  - Object-oriented design
- Due dates are final – no late period!
  - And assignments build on each other.
  - If you miss one, you’ll have to do it anyway.

Grading Largely Automatic
- Testing code is your responsibility
  - If it doesn’t make and compile, zero points
  - Compiler warnings: bad idea
  - If it crashes on a test case, zero points for that test case
- Grading Policies
  - Assignments may have special instructions
    - All assignments require makefiles
    - Memory issues (valgrind)
    - Efficiency (1 assignment only)
  - Test cases released the day after assignment is due.
    - No late submissions
    - Immediate feedback for next week
    - If you find a discrepancy, talk to the GTAs
    - If you disagree with policy, talk to me
- What about documentation? Style?
  - Not graded explicitly
  - Good coding style is its own reward.
Resources

• Lectures
• Web Site: www.cs.colostate.edu/~cs253
  – Assignments
  – Recitations
  – Instructor’s notes (sometimes)
  – Overheads from lectures (usually; when applicable)
  – Class news
• Textbooks
  – Weiss
  – Reference (Stroustrup and/or www.cplusplus.com)
• Office hours
  – GTA lab hours (TBD)
  – Instructor office hours (TBD)
• Piazza discussion board

Generally Start Here

Expectations (Lecture)

• Class starts at 9:30
  – Not 9:31, or 9:35, or…
  – Old adage: “To be on time is to be late; to be early is to be on time”
  – I will end class by 10:45
• Large class
  – I am bad at names (but want to learn as many as possible)
  – Tell me your name whenever you speak in class
• Cell phones should be in silent mode
  – If you must answer a call, leave room first
  – No other uses of cell phones in class (distracting)
• Open laptops in back of room only

Expectations (Recitations)

• Show up on time to the section you are registered for
  – If you show up at another recitation
    • Tell the instructor before the start of recitation
    • You may participate only if there is an open seat
    • Students registered for that section get priority
  – Be attentive during initial instructions
  – Perform exercise, show/submit results to instructor
    • If you can do the exercise quickly, you may leave as soon as instructor has seen your results

Expectations (Assignments)

• All work is your own (no team projects)
• Professional behavior in the lab at all times
• Design is your responsibility
  – I teach you about C++ & programming in general
  – I tell you what to do, not how to do it.
• Testing is your responsibility
  – You will not see test cases until after the submission deadline
  – Do not expect to be able to do most assignments in 1 day

Piazza Discussion Board

• Meant for discussions among students
• Questions about assignments, test cases, lectures...
• DO NOT POST CODE
• Professional on-line behavior expected at all times
• Monitored by GTAs and instructors
• Posts are anonymous to students, but not to instructors
Academic Integrity

• All graded work in this course is individual
• And because of the law of large numbers
  – Likely someone here now will try to cheat.
• We will actively look for all such students.
  – ... and impose punishments (see guidelines).
• Also, in cheating, giving is as bad as taking.
• Question: “Can’t I talk with my classmates?”
  – Yes you can and you should:
    • exam study groups, concepts, etc.
  – You can’t design/write code for/with them.
  – When in doubt, ask me.

Exceptions to Late Policy

• You may be able to negotiate different due dates in advance
  – For good reasons only
• You may also suffer an unforeseeable emergency
  – Examples
    • Illness requiring hospitalization
    • Death of a family member
    • House or apartment fire
  – If case of an unforeseeable emergency, talk to the instructors
    • In fact, talk to all of your instructors, not just for this class...

Question #1: Why are you here?

1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________

Why are you here?

1. Because it's required
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________