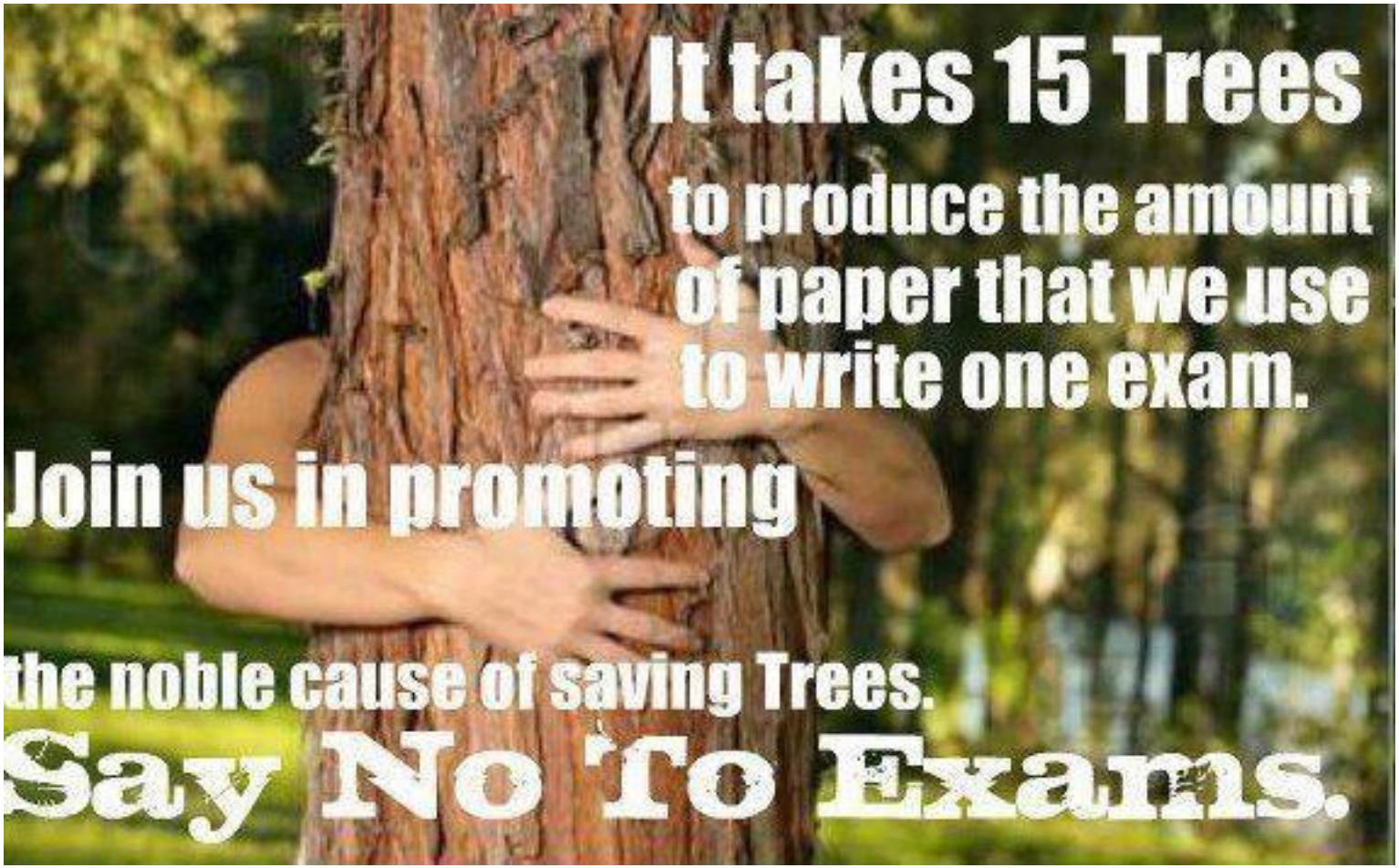
Agenda

- Administrative aspects
- Brief overview of the course
- “Hello world” in C++

Administrative Aspects


It takes 15 Trees
to produce the amount
of paper that we use
to write one exam.
Join us in promoting
the noble cause of saving Trees.
Say No To Exams.

We're Going Paperless, Not Examless

http://cse250.wordpress.com

The blog has a link to the course's homepage

http://www.cse.buffalo.edu/~hungngo/classes/2012/Spring/250/

Those pages contain everything we talk about today and *much more*!

What you will learn from this course

- Data structures
  - Analysis
  - Design
  - How to use them
  - When to use them, and which one(s)
  - How to implement (some of) them in C++

- It is *not* a C++ course
  - Some C++ covered, sufficient for our above purposes

What you will not learn from this course

- A lot!

- Why?
  - There are a lot of things I don't know
  - Both *data structures* and *C++* are huge subjects

Why Data Structures in C++

- Data structures are everywhere
  - Numerous examples
- C++ is powerful, fast, and widely used
  - http://www.theregister.co.uk/2011/06/03/google_paper_on_cplusplus_java_scala_go/
- The combination is great for your future job search!
  - http://steve-yegge.blogspot.com/2008/03/get-that-job-at-google.html
  - http://www.cforcoding.com/2010/07/my-google-interview.html
- Both are extremely interesting topics!

Prerequisites

- CSE 115/116
  - Object Oriented design/programming concepts
  - You must have done some programming before!
- CSE 119
  - Mathematical maturity
  - Recursion, trees, graphs

Teaching Staff

- Mr. Jangyoung (Chris) Kim
  - jangyoun@buffalo.edu
- Mr. Branislav Stojkovic
  - bs65@buffalo.edu
- Hung Q. Ngo (i.e. me)
  - hungngo@buffalo.edu

When/where/how to talk to me

Algorithm 1:

1: post on course blog (http://cse250.wordpress.com)

2: else

email me at hungngo@buffalo.edu

3: else

office hours

4: else

sneak in whenever the door is open

5: goto 1

Course Materials

- Textbook:
  - Elliot B. Koffman & Paul A.T. Wolfgang. 2006. Objects, Abstraction, Data Structures and Design: Using C++ , Wiley. (ISBN: 0471467553)

- Online materials (including lecture notes)
  - http://www.cse.buffalo.edu/~hungngo/classes/2012/Spring/250/
  - http://cse250.wordpress.com

Work Load

- Heavy!
- Approximately 50 pages of reading per week
- 6-8 written and programming assignments
- 2 programming projects
- 2 midterm exams
- 1 final exam

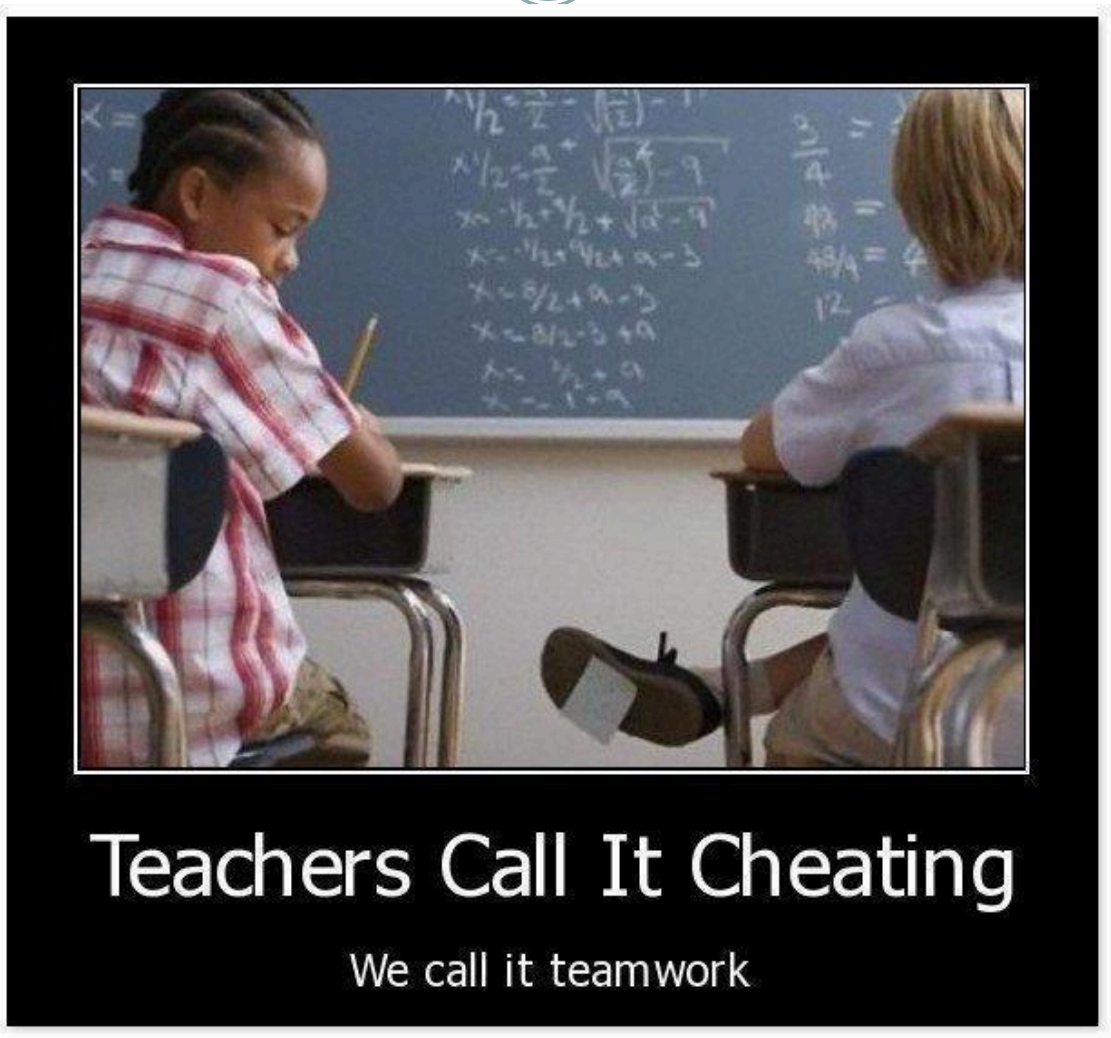
Grading Policy

- Exam component
  - 2 midterm exams (20%, lower-scored one worth 5%)
  - 1 final exam (30%)
- Written and programming assignment component
  - 6-8 assignments (25%, two lowest-scored ones worth 5%)
- Programming project component
  - 2 projects (25%, lower-scored one worth 8%)
- Late submission:
  - 24 hours late: 20% deduction
  - 48 hours late: 50% deduction
  - > 48 hours late: not accepted
- Incompletes & Make-up exams
  - Not given except in provably extraordinary cases! (see syllabus)

Letter Grades

Percentage score	Letter grade
90-100	A
85-89	A-
80-84	B+
75-79	B
70-74	B-
65-69	C+
60-64	C
55-59	C-
50-54	D
0-49	F

Academic Honesty



Academic Honesty

- On plagiarism:
  - Zero on the particular assignment/exam/project
  - 'F' for the course on the second violation!
  - Apply to both parties!
- Group study/discussion is encouraged, but the submission must be your own work!
- Programming:
  - Discussions of ideas are welcomed, but no exchange of codes
  - If you use a piece of code from Mr. Google, say so!

No Lame Excuses, Please

- I want to go home early, can I take the final on Apr 01?
- I had a fight with my girlfriend
- I've studied very hard, I understood the stuff very well, but I got a C-, please consider giving an A-

How to do well in the course?

How to do well in the course?

study

(verb)

The act of texting, eating and watching TV with an open textbook nearby.

How to do well in the course?

How to do well in the course?

- Participate: discuss, answer, ask questions
  "the only stupid question is the question you don't ask"
- Give suggestions, please! I'll take them seriously
- Start early!
- Make use of the Tas
  - And occasionally me too

Brief Overview of the Course

Outline

- 3 weeks: the procedural parts of C++, programming environment, some algorithms
- 2 weeks: asymptotic notations & analysis
- 1 week: lists, stack, queue
- 3 weeks: trees
- 2 weeks: priority queues
- 2 weeks: hash tables
- 1 week: graphs

Hello World in C++

```
int main() {
  cout << "Hello world\n";
  return 0;
}
```

What You Must Do This Week!

- Settle on a “development pipeline”
  - Compiler
  - Editor
- Submit Assignment 0
  - See course’s webpage

Last Words for Today

- You'll learn as much from me as I will learn from you
- Welcome, again!