

**CS368 Learn a New Programming Language:
C++ for Java Programmers
University of Wisconsin-Madison
Fall 2014**

Course website: <http://pages.cs.wisc.edu/~cs368-1>
Piazza: <https://piazza.com/wisc/firstsemester2014/cs3681>

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Office Hours: Tuesday 3 – 4 PM (Computer Sciences 3387)

Lab Hours: Monday 10 – 11 AM (Galapagos Lab, Computer Sciences)
Thursday 3 – 4 PM

Course content (aka things you have to keep track of):

- Lecture
- Readings from Text
- Course website and Piazza
- Assignments (Written and Programming)

Email ansari@cs.wisc.edu by next Wednesday if you:

- participate in religious observances that may interfere with course requirements
- have a VISA from the McBurney Center

Course Work

1-credit course with CR/N grade. Grade depends on:

Programming Assignments (80%)

- 5 programs, ~10-20% each
- no collaboration allowed
- Submitted through Moodle
- Late Policy:
 - up to 2 days late with penalty
 - 2 “free” late days cancel penalty

Homework Assignments (20%)

- 1-2 homeworks
- no collaboration allowed
- not accepted late
- Submitted through Moodle

Attendance:

- 12 of 15 lectures + 70% cumulative in assignments
- +5% required per missed lecture above 3
- Make sure you sign the attendance sheets every class!

Agenda for Today

- Course Introduction and Logistics
- Sign up for Piazza!
- C++ Overview and History
- Hello World!
- Simple and Enumerated Types
- HW0 assigned

Next class:

- Structs
- Arrays, Vectors, etc.
- Editing, Compiling, Running

Historical Overview

B → C

C++

Java

Python

(Some) Differences in Philosophies, Goals, How Things Are Done

Toolset, compilation model

Imports vs. preprocessor

Flexibility in writing code

Not everything is an object

Memory management

Memory access

Un-assigned variables

Security! (remember Heartbleed?)

API

A Simple Program

```
// PREPROCESSOR DIRECTIVES
#include <iostream>          // preprocessor inserts the code in this file
                           // < > for system files, " " for user-defined

using namespace std;      // import java.lang.*;

// MAIN FUNCTION          // public static void main (String [] args)
int main( ) {

    cout << "Enter a number and a letter: " << flush; // what is this?

    int a;
    char b;
    cin >> a >> b;          // how does this work?
    cout << endl;

    cout << "The number you entered was: " << a << endl;
    cout << "The letter you entered was: " << b << endl;

    return 0;              // main returns an int! Which one?
}
```

Includes and Namespaces

Basic Types, Constants, Enumerated Types

Basic Types:

Constants:

Enums:

On your Own

- Try different inputs to the program above
- Try CS lab accounts
- Reading assigned
- Try making enumerated types