THE UNIVERSITY *of* **NORTH CAROLINA** *at* **CHAPEL HILL**

COMP 110
Introduction to Programming

Fall 2014

Time: TR 9:30 – 10:45

Room: G100 (Genome Sciences Bldg.)

Jay Aikat

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Introduction
Jay Aikat

Research Assistant Professor, Computer Science, UNC Chapel Hill

OHIO UNIVERSITY

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My Journey into Teaching COMP 110…

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Introduction
Jay Aikat
Research Assistant Professor, Computer Science, UNC Chapel Hill

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Exploring Networks
of the Future

Professional work and research in Computer Science

**My Journey into
Teaching COMP 110…**

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Registering for this Class

- 300 students in this class

- ConnectCarolina says "closed"

- You want to get in?

- See me at the end of this class!

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Course info

- Course web page
  https://jayaikat.web.unc.edu/teaching/comp110/

- Syllabus
  http://cs.unc.edu/~aikat/courses/comp110/syllabus.pdf

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Teaching Assistants (TAs)

- Hold LOTS of office hours – mostly in SN 155 (evenings?)
- Run hands-on help sessions in SN014 – optional labs
- Grade quizzes, assignments and exams
- Help you understand the material
Do not help you do the assignments

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About you…

- By Class
  - freshman - 32%
  - sophomore - 32%
  - junior - 19%
  - senior - 16%

- By Major
  - Psychology - 16%
  - Biology - 12%
  - Comp Sci - 11%
  - Business – 11%
  - Journalism – 6%
  - Math – 5%
  - Chemistry – 5%
  - Exercise and SS – 3%
  - undecided - 19%

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Your majors

- Psychology
- Biology
- Computer Science
- Economics
- Business Administration
- Chemistry
- Mathematical Decision Sciences
- Exercise and Sports Science
- Political Science
- Physics

- Applied Science
- Information Science
- Global Studies
- Journalism
- Communication Studies
- Philosophy
- Mathematics
- Sociology
- Anthropology
- non-degree grad
- Undecided

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Let's take a detour...

COMPUTER SCIENCE: Making a Difference

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About COMP 110

- Learn how to develop *algorithmic thinking and problem solving skills*

- Learn the basic components of computer programming
  - can be applied to any programming language (Java, C++, etc.)

- Is COMP 110 right for you?

- Requirements / prerequisites
  - no programming knowledge assumed

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Sending Email

- To me or TAs:
  - aikat@cs.unc.edu
  - comp110-team-cs@cs.unc.edu

- Put COMP 110 in subject line

- For example:
  [COMP 110] I'm lost
  [COMP 110] This course is too easy!

Course Objectives

- You will learn the basics of JAVA programming
- More importantly, **algorithmic thinking**
  - Algorithm: sequence of instructions used to solve a problem
    - *Programming is understanding. (Kristen Nygaard)*
    - Programming is abstraction.
    - You will learn how to describe a problem and its solution abstractly and precisely.
  - Can be applied to any programming language (Java, C++, Python, Matlab, etc.)

Basics

The details look different in different languages, but a few basic **instructions** appear in just about every language:

- **Input**: Gather data from the keyboard, a file, or some other device.
- **Output**: Display data on the screen or send data to a file or other device.
- **Arithmetic**: Perform basic arithmetical operations like addition and multiplication.
- **Conditional Execution**: Check for certain conditions and execute the appropriate sequence of statements.
- **Repetition**: Perform some action repeatedly, usually with some variation.

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Textbook

- *Java: An Introduction to Problem Solving and Programming (6th Edition)*, by Walter Savitch. ISBN: 978-0-13-216270-8.

- **Note:** The UNC Students Stores also has a "Pearson Custom" version of this textbook with only the chapters we need for this class. (this one is less expensive!)

- Either textbook is fine. The textbook is *required.*

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Textbook - update

- Student Stores has sold out of the Java custom text for COMP 110
- Reprinting the custom edition may take 2-3 weeks
- In the meantime, they do have unlimited availability of the eBook of the full 6th edition
- You can also purchase this book from Amazon or any other source

Grading

- Programming assignments   50%
- Daily / Weekly Quizzes   10%
- Midterm   15%
- Final   20%
- Class participation   5%
- Extra credit (TBD)   upto 5%

Grading Scale

- A: 93 - 100; A- : 90 - 92.99;
- B+: 87 - 89.99; B: 83 - 86.99; B- : 80 - 82.99;
- C+: 77 - 79.99; C: 73 - 76.99; C- : 70 - 72.99;
- D+: 65 - 69.99; D: 60 - 65.99;
- F: 0 - 59.99.

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Software

- Java and Eclipse
  -- See the course website for
  detailed installation instructions

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Assignments

- Lab assignments and programming assignments
  - Labs: Times to be announced…
  - Programming assignments
    - Usually a week's time; highly time consuming
- Reading assignments
  - Complete reading assignments before class

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Collaborating on programming

Don't cheat!
You can
- talk to each other about the lecture topics
- talk about assignment *requirements*

You should
- do your own assignments -- design and code

You should **never**
- talk to each other about assignment solutions
- share code -- ***it is easy to detect and we will take action***

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Assignment Submissions

- Submit assignments through Sakai
- Naming code scheme
  - name your jar files for submission as follows:
    - *youronyen*_assignment#.zip
    - Example: aikat_assignment1.zip
- We will include these instructions with each assignment

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Late policy

Late assignments are not accepted

No excuses acceptable:*
    "I started late"
    "something came up"
    "I had a very busy week"
    Or any other creative excuses…

*Exceptions will be made as necessary

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Late Policy

- Assignments are always due at 11:55 PM on the due date
- Assignment is late if submitted after midnight on the due date
- Example
  - Due date: Sep 10; say, your deserved credit: 90
    - If received on 11:59 PM, Sep 10: You get 90 points;
    - If received on 00:01 AM, Sep 11: You get 0 points!

Exams

- Mid-Term
  - You can take a make-up mid-term ONLY in case of emergencies. I will ask for supporting documents (doctor's note etc.)
- Final (*Tuesday Dec 9, 8:00 AM*)
  - To take the exam at a different time, you must get permission from your Dean and bring me the blue slip you get from the Dean.
- I do not give *incompletes*

Studying for Quizzes

- Go through the class slides and your notes
- Step through example code and make sure you understand
- Read the related sections in the textbook

Working on Assignments

- Before you open Eclipse and start coding:
  - read the assignment
  - think about what the assignment is asking for
  - review lectures and examples on the topic
  - write (on paper) your plan for completing the assignment (i.e., your algorithm)

Save and Make Back-ups

- Save a file as you edit it
  - Save it as and when you finish a part of it
  - However, if it's working and you want to add some new function, you should make a copy of the working version
- Back up your work using USB drives, or Dropbox
  - https://www.dropbox.com/

Need Help?

- For help on general computer problems, or for free software
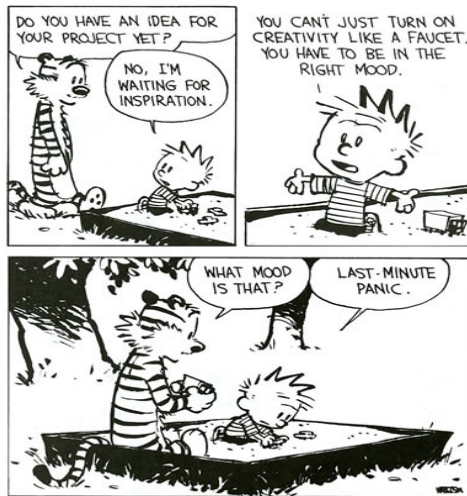 - http://help.unc.edu
  - 919-962-HELP

START EARLY!

- Nope! This → strategy will not work for this class! ☺

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Assignment 1

- DUE: Tuesday, Aug 26

- See the course website for assignments – calendar tab

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Our First Program

```
public class HelloWorld
{
  public static void main(String[] args)
  {
    System.out.println("Hello World");
  }
}
```

Next class

- CS-club representative

- Computer Basics

- Introduction to Programming

- Quizzes start Tue, Aug 26

→ Reading Assignment: Chapter 1.1 and 1.2