



CS 165: Data Structures and Algorithms (CS2)

<http://www.cs.colostate.edu/~cs165/>

# CS165

---

## **Instructors**

- Sudipto Ghosh (Sections 001 and 301)
- Wim Bohm (Sections 002 and 302)

**GTA:** Miller Ridgeway

**Lead UTA:** Tessa DeMuth

Office Hours Listed on Course Syllabus [page](#)

## **Lectures**

- MWF 9:00-9:50 AM (Ghosh)
- MWF 1:00-1:50 PM (Bohm)

# Have you ever wondered?



- 
- How does my streaming music player manage my playlists?
  - How does an automated customer assistance system queue up customers?
  - How does the university store the information for tens of thousands of students and retrieve it quickly?
  - How does eclipse execute my recursive methods?
  - How does my navigation app find the best route?

# What we will learn in CS165

---

- Smart ways to design and automate tests for software
- Advanced object-oriented programming concepts in Java
  - Recursion, inheritance and polymorphism
- Building blocks of storing and organizing data for efficient access and updates
  - Lists, stacks, queues, hash tables, binary trees, B+ trees

# Motivation behind CS165

---

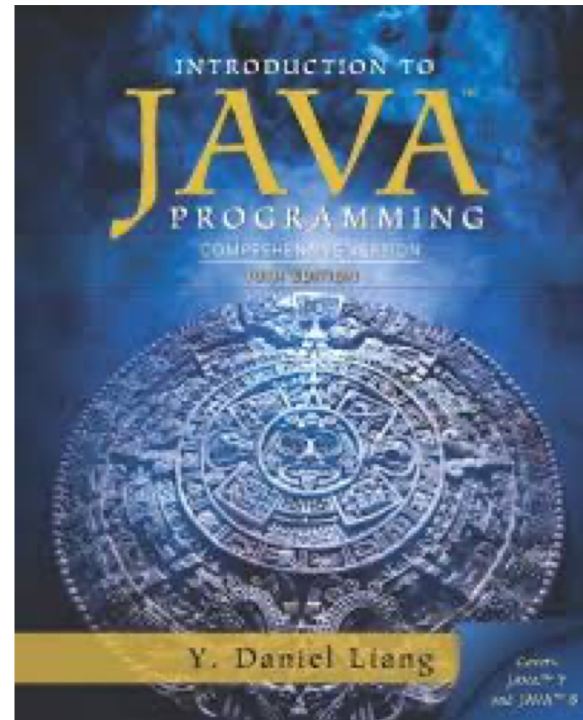
You will understand the structures and algorithms underlying these applications

- How does my streaming music player manage my playlists? – **Lists**
- How does an automated customer assistance system queue up customers? – **Queues**
- How does the university store the information for tens of thousands of students and retrieve it quickly? – **Trees**
- How does eclipse execute my recursive methods? – **Stacks**
- How does my navigation app find the best route? – **Graphs**

# Java textbook

---

- Introduction to Java Programming – Daniel Liang, 10th or 11th Edition
- Available electronically via Canvas Unizin Engage
  - Bookstore will charge you after add/drop date
  - You must opt-out if you don't want to use the book.



# zyBooks

- Setup instructions on syllabus
- Activities are graded!
- Introduced in Lab



# Piazza

---

- Online discussion forum. Check Piazza
  - Have a question about content?
  - Need clarification on an assignment?
- DO NOT post code to Piazza. You WILL get a zero on the assignment.
- Make sure you check your CSU email account
  - Piazza invitations are sent by email
  - You must accept the invitation to participate on Piazza



# Worksheets

---

- Interspersed with the lectures
- Important part of class activity
- Helps you prepare for the exams

# Grading components

---

4 Exams:	55%
• Prereq exam (Jan 31):	5%
• Midterm 1 (Mar 6):	15%
• Midterm 2 (Apr 10):	15%
• Final – comprehensive (scheduled by registrar):	20%
Programming Assignments:	9%
Programming Quizzes:	6%
Canvas Quizzes:	10%
zyBooks Reading:	10%
Labs (attendance and completion):	10%

# Grading criteria

---

Grades will not be assigned lower than shown:

$\geq 90\%$  A

$\geq 80\%$  B

$\geq 70\%$  C

$\geq 60\%$  D

Else F

*You must have a minimum average of 65% on the exams to receive a C*

- The instructor reserves the right to assign plus and minus grades.
- However, an A- (a minus), for example, is a **lower** grade than an A and therefore cannot be assigned to a score  $\geq 90\%$ .
- The instructor may choose to lower the cutoffs (i.e. be **more generous**) at his sole discretion at the end of the semester.

# Grading complaints

---

- TAs grade assignments, labs, quizzes
- Contact within ONE WEEK after assignment grade appears on Canvas:
  - Helpdesk for assignments
  - TAs for labs and quizzes
- If complaint is still not resolved, contact the instructor.

# Communications

---

- Talk with your TA before or after labs, at help desk, or during lab hours.
- Talk with your instructor during office hours.
- Email your instructor directly only if privacy is needed (health issue, staff complaint, etc.).
- Do not use Canvas Email.
- Do not attach comments to Canvas.
- Use the Piazza bulletin board instead.
  - Piazza is in Canvas modules.
  - Topics for assignments, Labs, ...

# Academic integrity

---

- All assignments, labs, quizzes, exams are solo
  - Unless otherwise specified
  - You may get help from course instructors and TAs
  - You may discuss concepts with other students, but:
    - Never share code with another student
    - Never copy code from another student
    - Never let anyone else type in code for you
- Worksheets may be done in groups in class.
- Know the department academic honesty code!

# Attendance policies

---

- Lecture attendance is expected
- Recitation attendance is recorded (part of grade)
- Events are excused **with documentation** (illness, death or illness in family, university sanctioned events)
- Events not excused (weddings, car problems, travel, illness without documentation)

# Programming assignment policy

---

- Check Progress page for due date/time. Usually due on Wednesday.
- Must submit via Checkin page (not by email) by deadline to get up to 100% points.
- Late acceptance period with 20% penalty, i.e., you can get up to 80% of points.
- Resubmissions are possible after the initial grades are announced
  - You can get up to 50% of the missed points.
  - Excel calculation:
  - =if (regrade > initial, initial + ((regrade-initial)\*.5),initial)



# Late and makeup policies

---

- **Programming Quizzes:** please arrange with instructor only if you have a valid excuse
- **Canvas quizzes and zyBooks reading:** No points if not submitted by due date
- **Labs:** Must complete work and have TA verify it during the original lab session (for initial grade) or the next one (for regrade)
  - Worst two labs thrown out
  - Students registered in a lab are given priority. You may attend other labs only if space is available.
- **Exams:** Makeups only under documented. extraordinary circumstances

# Lecture expectations

---

- Come to class
  - Attendance predicts success
- Be active, not passive:
  - Take notes, Ask questions
  - Do the worksheets
- Be prepared
  - Do reading assignments before the lecture
- Be on time
  - Lectures start and end on time

# Appropriate behavior in the lecture

---

- Cell phones off or on vibrate-only
  - If you need to answer, leave the room first
- Laptops for note taking or coding!
  - No games, audio, video, inappropriate websites
- Respect your colleagues
  - No snide or rude comments
  - No comments on abilities
  - No extended conversations

# Lab expectations

---

- Use the Linux Lab – CSB 120
  - Not the Windows Lab – CSB110
  - No uncovered drinks and no food
- Treat the lab as a professional workplace
  - No disparaging comments
  - No loud/rude/distracting behavior
  - Professional composure at all times
  - **No sexual harassment of any sort, not ever!**

# Tell Someone

---

- If you see something concerning, please **Tell Someone**
  - Your Instructor
  - Your TA
  - CSU Tell Someone Office
    - <http://supportandsafety.colostate.edu/tellsomeone>