Welcome to CS 1400 - Introduction to Programming and Problem Solving!

Class Hours

Tuesday/Thursday 10:00-11:50 am.

Class Location (Lectures)

Bldg 3 Rm 2636.

Instructor Information

- Ericsson Santana Marin. You can call me Professor Marin, Dr. Marin, or simply Professor.
- E-mail address: santanamarin@cpp.edu
- Office: 8-39
- Website: https://www.cpp.edu/faculty/santanamarin/
- Office Hours: Tuesday/Thursday (1:00-2:00 pm & 4:00-5:00 pm) in my office or by appointment on Zoom.

Course Description

The objective of this course is to introduce the concepts of problem-solving, algorithm design, and object-oriented programming (OOP) using **Java**.

Class Web Site

All documents (i.e., slides, assignments, solutions, handouts, etc.) associated with this course will be available at **Canvas**, the Cal Poly Pomona's learning management system. All students who have registered for the CS 1400 course should be able to access the course material through Canvas. If you have trouble, please let me know ASAP. It is your responsibility to get your lab/assignments and start working on them as soon as they are posted. Try to get started early on your deliverables, so that you can get help if you need it. You should check the announcement page frequently as the semester progresses.

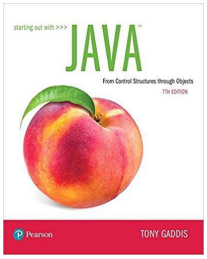
Course Outline

- Primitive data types in Java, operators, and expressions
- Control structures for selection and iteration
- Read from and write to files and the console
- Formatted output
- Methods and parameter passing
- Define new classes and instances thereof
- Arrays and variable-length argument lists
- Inheritance and how it facilitates code reuse
- The Object class and its methods
- Method overloading versus overriding
- Polymorphism
- Exception handling
- Solving problems with recursion
- Basic algorithms: summing, finding extrema, counting occurrences
- Simple sorting and searching
- Testing computer programs and selecting appropriate test cases

Expected Outcomes

- Gain familiarity with fundamental language features of Java
- Acquire knowledge of Java program debugging, compilation, and execution process
- Perform input and output operations using keyboard and display and using files
- Have competence in defining objects and the creation of reusable classes
- Know object-oriented programming concepts
- Recover from exceptional conditions
- Have ability to use recursion
- Establish a solid foundation in problem solving and in good programming principles and practices

Required Materials



- Textbook: Gaddis T., **"Starting Out with Java – From Control Structures through Objects"**, 7th Edition, Pearson, 2018 (a previous version of the textbook is fine). You can rent or buy it in our Bronco Bookstore.
- Technology: Computer with Internet access and a pdf viewer. A microphone is recommended for eventual Zoom meetings.
- Software: **Java 11.0** or a later version and a Java IDE (**Eclipse 4.17** or a later version is highly recommended).

Prerequisites and Recommended Skills

- Eligibility for MAT 1140 or minimum grade of C (2.0) or better in MAT 1140, or MAT 1150, or MAT 2140, or MAT 2250, or consent of instructor and basic computer literacy..

Class Format

- **Lecture:** All lectures will be face-to-face, and they will not be recorded. Slides will be available right before the lectures.
- **Labs:** These are small programming projects assigned during lecture time so that you can practice some learned concepts. They are instructor-guided activities. You will have 2 days to complete and submit your work once the lab is released and discussed in class. There will be 10 labs during the semester and the lowest lab grade will be dropped. **There is no make-up for missed labs.**
- **Assignments:** These are more elaborated self-guided programming projects. They should take you from 30 minutes to some hours to complete, depending on your skill level and study habits. You will have 1 week to complete and submit your work once the assignment is released and discussed in class. There will be 8 assignments during the semester and the lowest assignment grade will be dropped. **There is no make-up for missed assignments.**
- **Exams:** There will be 4 exams (including the final) during the semester. They are worth the same grade and will be closed book, closed notes, and no collaboration is allowed. They may consist of multiple choice, fill-in-the-blank, short answer, programming problems, or any combination thereof. Although the content is cumulative, the exam i will focus on material covered after the exam $i-1$ (the final exam will cover everything). The lowest exam grade will be dropped. All exams will be taken in the classroom. **There is no make-up for missed exams.**

Grading Policy

- Class Participation (lectures and discussion board in Canvas) (5%)
- Labs (drop the lowest grade) (20%)
- Assignments (drop the lowest grade) (30%)
- Exams (drop the lowest grade) (45%)

Grade Breakdown: The following scale will be used to determine your final grade:

Final Grade	A	A-	B+	B	B-	C+	C	C-	D+	D
Percentage	>= 93%	>= 90%	>= 87%	>= 83%	>= 80%	>= 77%	>= 73%	>= 70%	>= 67%	>= 63%

To calculate your final grade, use the formula: **YP = (YPP/100)*5 + (YLT/90)*20 + (YAT/140)*30 + (YET/300)*45**

, where YP = Your Percentage, YPP = Your Participation Points, YLT = Your Lab Total (discard the lowest score), YAT = Your Assignment Total (discard the lowest score), YET = Your Exam Total (discard the lowest score).

Rounding rules: if YP >= .5, then YP will be rounded up if attendance >= 75%.

Submissions: Labs and assignments will be submitted electronically through **Gradescope**, which allows me to provide fast, detailed, and accurate feedback on your work (instructions will be provided). Your Gradescope login is your university email, and your password can be changed here.

Grade Appeals: Any discrepancy or disagreement in grading must be presented **within a week** of the release of your graded materials, otherwise no grade change will be made. Those appeals will be also submitted electronically through Gradescope by using the option “regrade requests”.

Tentative Schedule (I reserve the right to change this schedule as the course progresses).

Week	**Mon**	**Tuesday**	**Wed**	**Thursday**	**Friday**	**Book Chapter**
01/23-01/27		Course Overview – Syllabus, Canvas, Gradescope		Introduction to Computers and Java **Setting up JDK**		1
01/30-02/03		Introduction to Computers and Java **Setting up Eclipse**		Java Fundamentals		1 & 2

Week	Mon	Tuesday	Wed	Thursday	Friday	Book Chapter
02/06-02/10		Java Fundamentals **Lab 1 release**		Decision Structures **Assignment 1 due date**		2 & 3
02/13-02/17		Decision Structures **Lab 2 release**		Loops **Assignment 2 due date**		3 & 4
02/20-02/24		Loops **Lab 3 release**		Loops **Assignment 3 due date**		4
02/27-03/03		**Review for Exam #1**		**Exam #1**		-
03/06-03/10		Methods **Lab 4 release**		Classes		5 & 6 & 8
03/13-03/17		Classes **Lab 5 release**		Classes **Assignment 4 due date**		6 & 8
03/20-03/24		Arrays and ArrayList **Lab 6 release**		Arrays and ArrayList **Assignment 5 due date**		7
03/27-03/31		**Spring Break**		**Spring Break**		-
04/03-04/07		**Review for Exam #2**		**Exam #2**		-

Week	Mon	Tuesday	Wed	Thursday	Friday	Book Chapter
04/10-04/14		Searching & Sorting Algorithms **Lab 7 release**		Searching & Sorting Algorithms		7
04/17-04/21		Inheritance and Polymorphism **Lab 8 release**		Text Processing & Wrapper Classes **Assignment 6 due date**		9 & 10
04/24-04/28		Recursion **Lab 9 release**		Recursion **Assignment 7 due date**		15
05/01-05/05		Exceptions and File I/O **Lab 10 release**		Exceptions and File I/O **Assignment 8 due date**		11
05/08-05/12		**Review for Exam #3**		**Exam #3**		-

The final exam is on 05/16 at 9:00-10:50 AM.

Tips for Success

One does not learn how to program computers by only reading a book; practice is essential. Students who are successful in CS 1400 attend every class, participate actively (taking notes and asking questions), review the material in the textbook/slides, begin labs/assignments shortly after they are posted so that they can ask questions well before the deadline, go to office hours or use the discussion board when help is needed, and study past labs/assignments to practice for exams. This course will demand significant time, at least 8 hours per week. Calendar the time!

General Class Policies

- **Class attendance and participation** are integral components to completing this course satisfactorily. If you miss a class, please contact a fellow classmate, and get updated about the materials covered in class. Office hours cannot be devoted to covering missed class lectures. Also, send me an email explaining the issue so that

I can take this into consideration when assigning you a participation grade. **Usually, attendance is usually taken at the beginning of the lectures.**

- **Late labs and assignments will not be accepted**. In case you cannot complete a task by the due date, submit whatever you have completed for partial credit.
- Please, **check your Cal Poly Pomona's email** account and Canvas **every day** for course announcements.
- To send an email to me, please use the Canvas email feature OR your official Cal Poly Pomona student email account, but make sure to include the course code, along with a description, in the subject line **(e.g., "CS 1400 – Question about …")** AND your full name in the body of the email. I will respond within 24 hr. on weekdays and 48 hr. on weekends.
- There will be **NO make-up for missed labs, assignments, or exams**. In case of a missed graded activity, this should be the one to be dropped.

Academic Integrity

All submitted work in the course must be your own. Although discussing ideas is encouraged (you may help each other with your strategy for how to solve a problem), copying from outside sources (e.g., other students, the Internet, etc.) on any material to be graded is not permitted and will be considered cheating. Cheating may result in failure of the lab/assignment/exam and/or failure of the class. It is not fair to your classmates and not good for your professional development. The University's policy on Academic Integrity will be enforced.

Disabilities

If you have any disability that would put you at a disadvantage in performing a task, please meet with me privately to discuss ways in which I can assist you as you perform the required work in this course. DRC-approved accommodations will be provided.

University Student Support

- You are paying for many campus resources through your fees. Use them! Here are a few that might be especially helpful:
- Broncos Care Basic Needs for students experiencing food or housing insecurity.
- Dean of Students, which includes the Cultural Centers, the Dreamers Resource Center, the Women's Resource Center, clubs, etc.
- Learning Resource Center for tutoring in many courses.
- Student Health and Wellbeing – this website leads you to many student services including Counseling, the Disability Resource Center, Health Services, the Integrated Care Network, Survivor Advocacy Services, and the Bronco Wellness Center.
- Student Success Central – this website leads you to many resources including those related to COVID19.
- Veterans Resource Center.

Again, let me know if you need any help. This is a big campus with a lot of stuff available, and every faculty and staff member want to see you succeed.

You can also download the syllabus in pdf format using this link