F18 CS F049 FOUNDATIONS OF COMPUTER PROGRA S2Y Dhagat 20754

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CS 49 Foundations of Computer Programming

Dr. Maneesh Dhagat

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Course Times: Mondays 6:00pm - 7:50pm

Location: 5607

Office Hours: Online by request

Required Texts: *Introduction to Java Programming* by Y. Daniel Liang (Pearson, 10th edition)

Grading: 70% Programming Assignments, 10% Midterm, 15% Final, 5% Participation

Exam Dates: Midterm: Oct 30 (online), Final: Dec 10 (online)

School Holiday: Nov 12, 2018 (class held on Nov 10, 2018 6:00 pm)

Prerequisites / Advisory: Satisfactory score on the mathematics placement test or MATH 105 or 108; concurrent enrollment in ESLL 25 or ENGL 209.

Course Description

Introduction to basic computer programming concepts using an object-oriented language. Intended for students interested in C S 1A or 2A, but would like a more gradual entry to computing foundations. Coding topics include hands-on practice with software engineering tools, simple programs, variables, control structures, functions, and input /output. Concept topics include the comprehension of specifications, adherence to style guidelines, and the importance of testing to ensure that programs are usable, robust and modifiable.

Student Learning Outcomes

A successful student will be able to write and debug computer programs which make use of the fundamental control structures and method-building techniques common to all programming languages. Specifically, the student will use data types, input, output, iterative, conditional, and functional components of the language in his or her programs.

Course Calendar

Lesson 1 - Introduction to Computing Model, Development Environment, Hello World Program (Chapter 1)

Lesson 2 - Variables, Expressions and Assignments, Numeric Data Types (Chapter 2)

Lesson 3 - Conditional Logic with if, if-else, if-else if, and switch statements (Chapter 3)

Lesson 4 - Math, Character and String Data Types, Formatting (Chapter 4)

Lesson 5 - Loops with while, do while, and for, break and continue (Chapter 5)

Lesson 6 - Methods and Arguments (Chapter 6)

Lesson 7 - Arrays (Chapter 7)

Lesson 8 - Algorithms and Data Structures (Notes only)

Lesson 9 - Multi-dimensional Arrays (Chapter 8)

Lesson 10 - Introduction to Object Oriented Programming (Chapter 9)

Grading Scale

Letter Grade	Percent
A+	< 100% to 97%
A	< 97 % to 94%
A-	< 94% to 90%
B+	< 90% to 87%
B	< 87% to 84%
B-	< 84% to 80%
C+	< 80% to 77%
C	< 77% to 70%
D	< 70% to 60%
F	< 60%

Grading Criteria

Activity	Points Possible

Programming Assignments	700
Midterm	100
Final	150
Participation	50

Texts

Introduction to Java Programming by Y. Daniel Liang (Pearson, 10th edition) is required. Either paper or e-book version is fine. Although it is possible to learn the material without the book, having a good text available is well worth the investment. I will also provide the high-level notes that I use in the live version of the course.

Development Environment

We will be using a cloud-based development environment called **CodeAnywhere** **(https://codeanywhere.com)** . You are welcome to use other editors and environments, but I will not be able to answer questions about alternate choices.

Assignments

With each lesson, there may be short review quizzes; late submissions are not accepted for these.

Additionally, each lesson includes a programming assignment which is the major part of your grade. These are accepted late but there is a 10% penalty for every day a programming assignment is late. Note that, being 1 min after it due date and time will be considered a day late.

Communication

Public Forums

Questions and comments should be posted to the Discussions Tool which you can reach by clicking on Discussions on the left menu. Unless a question is of a private nature (i.e. grades, registration issues), please use the public Discussions.

Feel free to answer your fellow student questions even if you only have a guess as to what the answer is. It's great to engage in conversation with each other in this manner.

Note: You must post an introduction in the first week of class. You will get credit for it in your participation score.

Private Messages

If you have a confidential question (grades or registration) use the Message Tool by first clicking on Inbox at the left, then selecting this course and your intended recipient (usually the instructor).

Pasting Code

Never post exact homework code to forums. Create a separate small program to illustrate your issue.

Note that pasting code directly into a Discussion post or an Inbox message will cause indentation in the code to be lost. This will make it very hard to read the code. Instead, create a small (.txt or .java) file with your code and attach it by clicking he paperclip icon.

Asking Questions

Good questions are specific and actionable; they show that the student has put in effort already to resolve the issue. Examples of good questions:

My program doesn't work. Through trial and error I have determined that the problem lies in the following five lines, but I can't seem to narrow it down any further. Can you help? Hansel.

I understand the homework description up until you say 'XYZ'. But I'm not sure what you mean by 'XYZ'. In the lectures 'XYZ' seems to be ... but here it seems to mean something different. From that point on, things get hazy because of this mismatch. Would you resolve this apparent difference for me? Jill.

Other questions may show lack of any effort. Example of poor or unanswerable questions are:

My program doesn't work. Here it is. Would you please see if you can tell me what I am doing wrong? Gretel

I don't understand the assignment. I'm lost. Please help. Jack.

STEM Success Center

If the online forums here are not enough, please visit the **STEM Success Center page (http://foothill.edu/STEMCenter/)** . These experts are qualified to help you with assignments or modules without giving you an answer that will short-circuit your discovery process. Let them know that you are not to receive actual assignment solution code or even fragments. They probably know this already, but it's your responsibility to avoid submitting something that was written by a tutor or another person.

Attendance

For the live version of this course, on-time, regular lecture attendance is required. If you miss more than 3 lectures, you will be dropped from the course (or receive an F if after the withdrawal date). Arriving late is disruptive to the classroom environment. If you are late for 3 lectures, this will count as one absence.

For the online version of this course, you are required to stay engaged through logging into Canvas and assignments. If you have not logged in for 7 consecutive days, you you will be dropped from the course (or receive an F if after the withdrawal date).

Drops and Withdrawal

For a complete reference of all withdrawal dates and deadlines refer to the Foothill College registration page at the college web site **here (https://foothill.edu/calendar/)** .

To stay enrolled in this class, you must participate regularly in your lab assignments and exams. This is part of participation that classes must possess in order to maintain their transfer-ability and accreditation.

You will be dropped for any of the following:

- If you do not post an introduction in the first week
- If you do not login for **seven (7)** consecutive days (Online class only)
- Missing **three (3)** lectures (Live class)
- If you receive a zero on any two lab assignments
- Missing a scheduled test without prior notice

If the non-participation described above occurs beyond the last date to drop, you may receive whatever grade that your points dictate. Therefore don't assume that you can simply stop participating late in the quarter and you will be dropped. If you intend to drop please do so yourself, so you don't accidentally end up with an unintended "F."

American Disabilities Act (ADA) Compliance

If there is any student who has special needs because of a disability, please go directly to the Disability Resource Center (DRC) as early as possible in the quarter. To contact the DRC, you may:

- Visit the DRC in Building 5400 (near lot 5)
- Email the DRC at drc@foothill.edu
- Call the DRC at 650-949-7017 to make an appointment
- Use Clockworks in MyPortal to submit an online request for an appointment or to request accommodation letters.

If you already have an accommodation notification from DRC, please contact me privately to discuss your needs.

Academic Integrity, Cheating, & Plagiarism

Working together on homework will lead to a zero on the assignment and a trip to the Dean of Student's Office. Any variation of collaborating or copying programming lab assignments is prohibited. The assignment must be 100% your own work.

Most students do not fully understand what cheating and plagiarism are.
According to the Academic Integrity policy at Foothill College, here are some examples of cheating:

- Copying from someone else's test.
- Submitting work presented previously in another course, if contrary to the rules of either course.
- Altering or interfering with grading.
- Using or consulting, during an examination, unauthorized sources, devices, or materials; and
- Committing any act that defrauds or misrepresents the provenance of an academic work.

Plagiarism is representing someone else's work as your own. Here are some examples of plagiarism:

- Incorporating the ideas, words, sentences, paragraphs, or parts of another person's writings, without giving appropriate credit, and representing the product as your own;

- Representing another's artistic or scholarly works such as musical compositions, computer programs, photographs, paintings, drawings or sculptures as your own;
- Submitting a paper written by someone else; and Using web sources without documentation.

The above examples are only a partial list of what could be considered academic dishonesty. To see a complete description, please go to **Student Handbook** **(http://foothill.edu/services/handbook/index.php)** and click on Academic Integrity on the left hand menu.

Failure to follow the principles of academic integrity will result in at minimum a 0 on an assignment and a report to the Dean of Students. Depending upon the extent of dishonesty, you may be given a 0 in the class as well.

Course Summary:

Date	Details	
Fri Sep 28, 2018	**Post First Week Introduction** (https://foothillcollege.instructure.com/courses/7917/assignments/191440)	due by 11:59pm
Wed Oct 3, 2018	**Build and Debugging** (https://foothillcollege.instructure.com/courses/7917/assignments/182086)	due by 11:59pm
	Introduction Review (https://foothillcollege.instructure.com/courses/7917/assignments/182088)	due by 11:59pm
	Program: Transaction Record (https://foothillcollege.instructure.com/courses/7917/assignments/182100)	due by 11:59pm
Wed Oct 10, 2018	**Variables Pitfalls** (https://foothillcollege.instructure.com/courses/7917/assignments/182078)	due by 11:59pm
	Variables Review (https://foothillcollege.instructure.com/courses/7917/assignments/182087)	due by 11:59pm
	Program: Market Receipt (https://foothillcollege.instructure.com/courses/7917/assignments/182095)	due by 11:59pm
Wed Oct 17, 2018	**Conditionals Review** (https://foothillcollege.instructure.com/courses/7917/assignments/182077)	due by 11:59am
	Conditionals Pitfalls (https://foothillcollege.instructure.com/courses/7917/assignments/182084)	due by 11:59pm
	Program: Math Quiz (https://foothillcollege.instructure.com/courses/7917/assignments/182096)	due by 11:59pm
Wed Oct 24, 2018	**Math, Characters and Strings Review** (https://foothillcollege.instructure.com/courses/7917/assignments/182081)	due by 11:59pm
	Program: Robust Receipt (https://foothillcollege.instructure.com/courses/7917/assignments/182097)	due by 11:59pm

Date	Details	
Tue Oct 30, 2018	**Midterm** (https://foothillcollege.instructure.com/courses/7917/assignments/182079)	due by 11:59pm
Wed Oct 31, 2018	**Loops Review** (https://foothillcollege.instructure.com/courses/7917/assignments/182089)	due by 11:59pm
	Program: Encrypt and Decrypt (https://foothillcollege.instructure.com/courses/7917/assignments/182093)	due by 11:59pm
Wed Nov 7, 2018	**Methods Review** (https://foothillcollege.instructure.com/courses/7917/assignments/182080)	due by 11:59pm
	Program: Concise Receipt (https://foothillcollege.instructure.com/courses/7917/assignments/182092)	due by 11:59pm
Wed Nov 14, 2018	**Arrays Review** (https://foothillcollege.instructure.com/courses/7917/assignments/182082)	due by 11:59pm
	Program: Bubble Sort (https://foothillcollege.instructure.com/courses/7917/assignments/182091)	due by 11:59pm
Wed Nov 21, 2018	**Program: Final Receipt** (https://foothillcollege.instructure.com/courses/7917/assignments/182094)	due by 11:59pm
Wed Nov 28, 2018	**Multi-Dimensional Arrays Review** (https://foothillcollege.instructure.com/courses/7917/assignments/182083)	due by 11:59pm
	Program: Tic Tac Toe Prep (https://foothillcollege.instructure.com/courses/7917/assignments/182099)	due by 11:59pm
Wed Dec 5, 2018	**Program: Tic Tac Toe** (https://foothillcollege.instructure.com/courses/7917/assignments/182098)	due by 11:59pm
Mon Dec 10, 2018	**Final** (https://foothillcollege.instructure.com/courses/7917/assignments/182085)	due by 11:59pm
	General Participation (https://foothillcollege.instructure.com/courses/7917/assignments/182090)	due by 11:59pm