

CPCS 202: Programming I (Syllabus)

Spring 2019 (2nd Semester 2019)

Course Information

Course Code/Title: CPCS202 / Programming I

Credits: 3 credits

Prerequisites: Preparatory year of the University

Prerequisites to: CPCS203 (Programming II)

Text Book: Introduction to Java Programming, Comprehensive, 10th Edition, Y. Daniel Liang

Course Description

The objective of this course is to cover the fundamental concepts of procedural programming. This course introduces the Java programming language and helps students develop basic problem-solving skills. Topics include algorithms, flowchart, API, IDE, and JDK, numerical data, primitive data type, short hand operators , cast value of one type to another type , selection statements, switch statements, break and continue statements, relational operators, logical operators, logical expressions, Boolean variable, Boolean expressions, repetition statements, nested loops, methods, pass arguments to a method, method overloading, method abstraction, use of methods in the math class, arrays, common array operations, methods with array arguments and return value, search and sort operations on array.

Lectures: The course lectures are very important in helping students learn and understand the material. Students have access to all PPT slides from Blackboard. However, attending the lectures is vital towards success in the course besides referring to the text book is very useful since it is the main source for information for this course.

Lab Sessions: In addition to the main lecture, this course also includes a weekly lab. One of the main purposes of the lab is to reinforce and practice the information presented in the main lecture. Additionally, all programming assignments will be explained in the lab. For this reason, **lab attendance AND participation is mandatory**. You must attend at least 75% of the labs. If you miss more than 25% of the labs, you will not be allowed to take the lab final exam.

Programming Assignments: There will be five individual programming assignments during the semester, with each assignment worth 6% of your final grade. The purpose of the assignments is for you to individually practice the material covered in the lecture and the lab (this is why lecture and lab attendance is so important). Some assignments may take only two or three hours; other assignments may take five or six hours. You will usually be given ten days to complete an assignment in order for you to schedule your time properly. Make sure you start early!

Exams: There will be two midterm exams and one final exam. You are not allowed to use any type of electronic device during the exams. This includes cell phones, tables, calculators, and anything else you can think of. As the material in this course builds on itself, each exam can be considered “cumulative”, and material from the beginning of the semester is certainly not off-limits for the 2nd Midterm. And of course, the Final exam is cumulative as well.

Quizzes: There will be several quizzes during semester (between 5 to 10). Quizzes will consist of a small number of basic questions on material that has been covered recently, with the goal of forcing students to keep up with the material. Quizzes will be announced on Blackboard AND the quiz will be on Blackboard (so you can take the quiz at your home). The quiz will usually be 20 to 30 minutes, and we will make them available for 10 hours. **There will be no makeup quizzes.** It is your responsibility to take the quiz during this open availability period. **Quizzes will usually be on Tuesday from 12:00 PM to 11:59 PM on Blackboard.**

Table 1 : Grading (Common for all sections)

6 Quizzes	05%	Average of the top 5 marks
5 Assignments	30%	6% each
First Exam	10%	
Second Exam	15%	
Final Exam	25%	Comprehensive Exam includes all chapters
Final Lab Exam	15%	

Course Learning Outcomes (CLOs)

By completion of the course the students should be able to

1. Construct algorithms for solving simple problems.
2. *Use a programming language to implement, test, and debug algorithms for solving simple problems.
3. Analyze and explain the behavior of simple programs involving the fundamental programming constructs.
4. Identify and describe uses of primitive data types and standard library functions/methods.
5. Write programs that use primitive data types and standard library functions/methods.
6. Apply appropriate conditional and iteration constructs for a given programming task.
7. Write and/or modify short programs that use standard conditional structures.
8. *Write and/or modify short programs that use standard iterative control structures.
9. *Write programs that use functions/methods.
- 10.*Construct and manipulate one-dimensional arrays.
- 11.Construct and manipulate two-dimensional arrays.
- 12.*Trace the execution of a variety of code segments and write summaries of their computations.
- 13.Identify common coding errors and apply strategies for avoiding such errors.
- 14.Apply a variety of strategies to the testing and debugging of simple programs.
- 15.Use of an appropriate IDE (Integrated Development Environment) to create, compile and run a program developed by the selected programming language.

Important Course Policies

- 1) The lab instructor is your main point of contact regarding the programming assignments and projects. If you have any questions at all regarding the assignments, solving the program, how to code it, syntax errors, you name it, contact the lab instructor or TAs (if applicable). You can also email them with your questions, but understand that they may not respond immediately. If you want help via email, start your assignment early. Finally, the Lab Instructors will be grading the assignments. Therefore, any and all questions you have regarding your grade should be directed to them. If you feel your grade was unfair and you were not satisfied after contact the lab instructor, please come to my office hours to discuss.
- 2) Cheating will not be tolerated. **If a student is caught cheating, then the grade on that assignment/exam for all students knowingly involved (the person providing answers as well as the one taking the answers) will be a -4%. (Note, this is less than 0%.)** Each program is worth 6%. So if a student is caught cheating, they get a zero on the program AND they lose an additional 4% for a total of 10%. Furthermore, based on the severity of the case and if this is the second instance of cheating, the student may be given an "F" in the course, dismissal from an academic unit, revocation of admission, suspension from the university, etc.

Since discussion of concepts with other students is often helpful, cheating must be more clearly defined. **So to be very clear, the following items are cheating:**

- copying a segment of code of three lines or more from another student from a printout or by looking at their computer screen
- taking a copy of another student's work and then editing that copy
- sitting side by side while writing code for assignments and working together on segments of code
- searching online for code/answers and then using that code

In all of these situations, **BOTH people responsible**, the one from whom the three lines of code are taken as well as the

person who takes those lines of code are engaging in academic misconduct. For example, if someone makes an electronic copy of their code accessible to ANYONE in the class (except for themselves) before 48 hours after an assignment is due, they are automatically culpable of academic misconduct. It does not matter if the recipient of the code doesn't use it, uses it a little, or copies it directly.

If you get stuck on an assignment, please ask the lab instructor for help instead of getting help from another student.

Part of the learning process in programming involves debugging on your own. In our experience, when a student helps another student with an assignment, they rarely allow the student getting help to "figure out" problems on their own. Ultimately, this results in a lack of debugging experience for the student receiving help. The goal of the lab instructor is to provide the facilitation necessary for students to debug and fix their own programs rather than simply solving their problems. **But, you are encouraged to work together on any non-graded programs to enhance and expedite the learning process.**

3) **Fsds Program Authentication/Verification**

You will notice that we no longer have program discussions. The purpose of discussions was as a second measure to identify those who cheated on the programs. Instead of discussions, we now have a new two-phase process:

1. Plagiarism Software
2. Program Quiz related to program topics

The plagiarism software will be used. If the results show that a student was clearly cheating, they will immediately be given a **-4%**. If the results suggest cheating, the student(s) will be called to take a Quiz related to the topics covered by that programming assignment.

*Note: this quiz will be much easier than the programming assignment. Therefore, if a student gets a 100 on the assignment and truly did the assignment by himself/herself, this student will very easily get a 100 on the Program Quiz. Students will be **notified on Blackboard** if you were chosen to take the Program Quiz. It is your responsibility to make sure that you are consistently checking your Blackboard email. **If a student is emailed for the Program Quiz and does not show up, the score will be a -4%.**

When will the Program Quiz take place?

- Program Quiz for Program 1 and Program 2 will be held after Exam 1.
- Program Quiz for Program 3 and Program 4 will be held after Exam 2.
- And finally, Program Quiz for Program 5 will be held before the end of the semester.

What questions are asked at the Program Quiz?

The purpose of the Program Quiz is to confirm that the student actually completed the assignment by himself/herself. Therefore, the quiz will be on the computer, and the questions will be related to the topics of the assignment. For example, if the assignment is on loops, the quiz will have questions on loops. Again, the difficulty level of the quiz will be much lower than the actual programming assignment. Therefore, any student who performed well on the programming assignment will absolutely solve the quiz perfectly.

What is the result of the Program Quiz?

If the student was able to answer the questions and showed an understanding of the material, their grade will be as given originally (no change). If the student is unable to answer the questions correctly and demonstrates that they could not have done the program, they will be given a cheating grade of -4%.

**Note: the student may have already received a grade from the grader. However, if after the Program Quiz, it becomes clear that the student cheated on the assignment, their grade will be changed to a -4%.*

- 1) In order to take a make-up exam, you must request one from the instructor. The instructor will grant requests using his own judgment by applying the following general rule: "Make- up exams will only be given if the reason for missing the exam was out of the student's control." **According to the rules of the Ministry, any sick excuse **must** come from the university hospital or from a government hospital. No others will be accepted.**

WARNING: *makeup exams are usually more difficult than the normal exam. Only choose to do a makeup if it is absolutely necessary based on your situation.*

- 2) **Blackboard** will be a crucial element of the course. *It is your responsibility to check Blackboard before every class meeting for any updates that may be posted.* Additionally, some clarifications may only be given in class and won't be posted online at all, so make sure you keep up with announcements in class.
- 3) **Class Attendance**. Class attendance is mandatory and will be taken immediately at the beginning of each class. If you miss more than 25% of the lectures, you will receive a DN.

Lab Attendance. Lab attendance is mandatory. If you miss more than 25% of the Labs, you will receive a DN for the lab and cannot take the Lab Final Exam.

Table 2: Tentative Schedule



Week #	Higri	Gregorian	Chapter	Lecture Topics	Lab Topics	Assig.	Quiz	Exam	CLOs
W1	30/04/1440	06/01/2019	Ch 1: Introduction <i>Give a flavor about www.code.org</i> 	1.1 – 1.11	<i>Give a flavor about www.code.org</i> 				1,13
W2	07/05/1440	13/01/2019	Continue Ch 1: Introduction Ch 2: Elementary Programming	<i>If not done yet</i> 2.1 – 2.11	Lab 01 Familiarity with NetBeans IDE Environment				1,2,3, 4,13
W3	14/05/1440	20/01/2019	Ch 2: Elementary Programming	2.12 – 2.18	Lab 02 Elementary Programming I				3,4, 13
W4	21/05/1440	27/01/2019	Ch 3: Selections	3.1 – 3.9	Lab 03 Elementary Programming II	Ass 1	Qz 1		6,7,13
W5	28/05/1440	03/02/2019	Ch 3: Selections	3.10 – 3.16	Lab 04 Selection Statements I				6,7,13
W6	05/06/1440	10/02/2019	Ch 4: More Basics of Java	4.1 – 4.6	Lab 05 Selection Statements II	Ass 2	Qz 2	Ex1	4,5,13
W7	12/06/1440	17/02/2019	Ch 5: Loops	5.1 – 5.5	Lab 06 Characters, Strings, and Mathematical Functions		Qz 3		8,13
W8	19/06/1440	24/02/2019	Ch 5: Loops	5.6 – 5.11	Lab 07 Loop Statements I	Ass 3			8,13
W9	26/06/1440	03/03/2019	Ch 6: Methods	6.2 – 6.6	Lab 08 Nested Loop Statements		Qz 4		9,13
W10	03/07/1440	10/03/2019	Ch 6: Methods	6.7 – 6.10	Lab 9 Methods I	Ass 4			9,13
W11	10/07/1440	17/03/2019	Ch 7: Single Dimensional Arrays	7.1 – 7.5	Lab 10 Methods II		Qz 5	Ex2	10,13
W12	17/07/1440	24/03/2019	Ch 7: Single Dimensional Arrays	7.6 – 7.13	Lab 11 Arrays (1 dimension) I	Ass 5			10,13
W13	24/07/1440	31/03/2019	Ch 8: Multi-Dimensional Arrays	8.1 – 8.8	Lab 12 Arrays (1 dimension) II		Qz 6		11,13
W14	02/08/1440	07/04/2019	Review		Lab Exam				
W15 - W17	09/08/1440	14/04/2019	Finals Exams						

Table 3: Deliverables assignments and Important Dates

Assessment Tool	Assigned Date	Submission Date	Submission time
Assignment 1	W4: Tuesday 29/01/2019	W6: Tuesday 12/02/2019	at 11PM
Assignment 2	W6: Tuesday 12/02/2019	W8: Tuesday 26/02/2019	at 11PM
Assignment 3	W8: Tuesday 26/02/2019	W10: Tuesday 12/03/2019	at 11PM
Assignment 4	W10: Tuesday 12/03/2019	W12: Tuesday 26/03/2019	at 11PM
Assignment 5	W12: Tuesday 26/03/2019	W14: Tuesday 09/04/2019	at 11PM
Quiz 1	W4: Tuesday 29/01/2019	Available from 12:00PM to 11:59PM	
Quiz 2	W6: Tuesday 12/02/2019	Available from 12:00PM to 11:59PM	
Quiz 3	W7: Tuesday 19/02/2019	Available from 12:00PM to 11:59PM	
Quiz 4	W9: Tuesday 05/03/2019	Available from 12:00PM to 11:59PM	
Quiz 5	W11: Tuesday 19/03/2019	Available from 12:00PM to 11:59PM	
Quiz 6	W13: Tuesday 02/04/2019	Available from 12:00PM to 11:59PM	
Exam 1	W6 *	Same as assigned date	
Exam 2	W12*	Same as assigned date	
Final Lab exam	W15*	Same as assigned date	
Final Exam	As appears in the final exams schedule	Same as assigned date	

* This date may be changed or differ for any reason, anyway specific date will be confirmed upon the time and you will be noticed for changes.

*****Note:** the following schedule is tentative. You should notice that the Exams are currently not on the schedule. Additionally, things may shift slightly as the Exam dates are finalized.

The Coordinator Information

Name: Dr. Abdullah Marish

Office: Building 31 second floor Room 134 (Male Section)

Email: ammali@kau.edu.sa

Office Hours: Check in Blackboard

Name: Dr. Lamyia Daghestani (Female branch)

Office: Building 61 second floor Room 139 (Female Section)

Email: ldaghestani@kau.edu.sa

Office Hours: Check in Blackboard