ITE409 - Advanced Programming
AUIS - Department of Information Technology

1   Course Information

Course ID	ITE409
Course Title	Advanced Programming
Course Level	Undergraduate
Course Design	Required for all IT students
	General elective for the rest
Number of Credits	3
Prerequisites	ITE303
Class Location	B-B1-01
Meeting Time	Section 1 - Mondays from 12:30 to 14:00
	Section 2 - Mondays from 14:15 to 15:45
	Section 1 - Wednesdays from 12:30 to 14:00
	Section 2 - Wednesdays from 14:15 to 15:45

2   Instructor Information

Instructor	Yad Tahir, PhD
Email Address	yad.tahir@auis.edu.krd
Office Location	B-F2-15
Office Hours	Thursdays from 8:45 to 11:45

3   Course Description

This course covers the fundamentals of Object Oriented Programming (OOP), building on the procedural programming paradigm explained in ITE303. The course starts by introducing the basic constructs for implementing object-oriented applications on top of an OOP language such as Java. Emphasis is on the fundamentals of structured design with classes and objects, including development as well as testing. The practical part of the course focuses on creating programs to elucidate the concepts, techniques and tools covered in the course. Students experiment building desktop applications that are database-driven, testable, and provide graphical-user interface.

4 Learning Outcomes

Upon successful completion of the course, students will be able to:

- Synthesize object-oriented principles in common engineering design situations and procedural-oriented codebases.

- Use the key elements of architectural structures, specifically in regards to software APIs, frameworks and packages.

- Utilize third-party packages and handle exceptions effectively.

- Develop database-driven desktop applications using a familiar database management system such as MySQL.

- Construct unit tests to continuously verify code correctness and validity.

5 Program Goals

- **IT Core 1:** Classify a problem and define computing requirements appropriate to its solution. [Knowledge],[Comprehension]

- **IT Core 2:** Apply knowledge of current techniques, skills, and tools necessary to support best computing practices within the Information Technology field. [Application]

- **IT Core 4:** Identify and recognize user needs in the selection, creation, evaluation and administration of computer-based systems. [Knowledge], [Analysis]

6 Materials and Access

Important material from the text and outside sources will be covered during our scheduled class meetings. Regular attendance and in-class note-taking are critical. This course requires a lot of time, effort and energy. Students are strongly encouraged to **do background reading before and after** each class to gain a better grasp of the material. Corresponding chapters for each lecture will be indicated. The primary reference is:

Title	Java How to Program – Late Objects, Global Edition, 10th Edition
Author(s)	Harvey and Paul Deitel
Publisher	Pearson, 2015
ISBN	1292019360
URL	`https://goo.gl/TFyzMa`

Most of the material discussed in this course are well-explained in the title above. The reference is optional and can be replaced by any other online sources as long as the required topics are covered.

6.1 Slides

The PPT slides of this course are designed to assist the instructor **only**. They contain very limited information. Thus, relying merely on the slides is **NOT** sufficient to this course.

6.2 Required Software

Students are required to use the following software:

- Java Development Kit (JDK) 8 or higher.

- MySQL as a backend database server.

- A Java IDE such as Eclipse or NetBeans.

7 Grading Procedures

Assessment Type	Grade %
Multiple Quizzes	10
Course Activities	5
2 Coursework Assignments (randomly chosen from out of 4)[a]	20
2 Periodic Exams (20% each)	40
Final Exam[b]	25
Total	**100**

[a] The selected coursework assignments are identical for the whole class. The scope randomness is **not** a per individual basis.

[b] The final exam for students with grade of **60+** is optional. They can choose to scale up their portfolio grade by 25%.

8 Grading Scale

A	(4.0)	93 - 100	Superior
A −	(3.7)	90 - 92	
B +	(3.3)	87 - 89	Good
B	(3.0)	83 - 86	
B −	(2.7)	80 - 82	
C +	(2.3)	77 - 79	Satisfactory
C	(2.0)	73 - 76	
C −	(1.7)	70 - 72	
D +	(1.3)	67 - 69	Unsatisfactory
D	(1.0)	60 - 66	
F	(0)	Below 60	Fail

9 Attendance policy

Students are expected to attend all scheduled classes, arrive on time, and remain in class until dismissed. Tardiness and early departure are disruptive for students and the teacher and are unacceptable. Attendance will be taken at the beginning of each class.

As per university policy for classes that meet **two** times a week at the **sixth** absence the student will be dismissed from the course with a grade of **F**. This cutoff is **absolute**. Per university policy as stated in the Academic Catalog, there are no excused absences. At the penultimate absence, the professor must notify students via e-mail that they are in danger of failing the course, with a copy to the Dean of Students.

10 Course Policies and Expectations

10.1 Classroom Conduct

In this course, a premium is placed on listening, discussion, and participation. These sorts of activities are only possible in a classroom where the person speaking is accorded respect. In short, we all should listen to the one person who is speaking.

Students are expected to behave in a collegial manner at all times when in class. Rude, disrespectful, aggressive, or threatening language or behavior will not be tolerated, and students displaying this will be removed from class. Attire should be appropriate for university students. Distracting behavior will not be tolerated, and students behaving in this way will be asked to leave the class. Examples of distracting behavior include:

- Using a cell phone in any way, shape or form

- Side conversations while others are speaking

- Speaking languages other than English

- Eating in class

- Any other behavior which a student is warned against during class

Professionalism and ethical behavior are expected from students. Your instructor is not an encyclopedia, nor this course encourages memorization. Instead, this course aims to develop a deep understanding of the material. Students conduct should be guided by the AUIS Honor Code and the AUIS Academic Catalogue (both available online at www.auis.edu.krd).

10.2   Office Hours

All students are invited to visit the instructor in his office, outside of class time. Apart from office hours, students can **make appointments** to visit at other times. Visits during office hours may be used to ask questions about the course material and content, clarify assignments or graded tests, explore ideas or topics related to or extending from the course material, and other course-related matters.

10.3   Makeup Exams and Extra Credit Policy

There are no makeup exams or extra credit available in this course.

10.4   Expectations of Student Time

AUIS adheres to the United States federal definition of a credit hour, as established by the US Department of Education. As a four credit-hour course, you are expected to attend four hours of direct instruction per week, and spend a minimum of eight hours out of class per week in homework, studying, preparing, and otherwise engaging with the material of this course.

10.5   Late or Missed Submissions

Time-management and the meeting of harsh deadlines are part of the soft skills expected of all AUIS graduates. As a result, students should submit all coursework by the published deadline.

A coursework submitted within **72 hours** after the deadline is considered as a **late submission**. Each student can have **two** late submissions. A **penalty of 25 percentage marks** will be applied to each late submission, i.e. the submitted coursework will be graded out of 75%. Any additional late submissions will be awarded a mark of **zero** and there will be no make-ups offered for missed assignments.

10.6   Grade Disputes

Any questions about a grade earned on an assignment or test should be brought to the instructor. All assignments may be discussed in details during office hours, and any disputes concerning grades may be addressed at that time. If there is a dispute concerning the final grade for the course, students have the right to make a formal grade appeal. Details on this process can be found in the Academic Catalog.

10.7   Moodle

This course has a Moodle site that will be used for announcements and posting extra material. Enrollment is **mandatory**. Please make sure that you have enrolled yourself into the right section. The **deadline** is January 31st and the enrollment code will be provided during the first class meeting.

11   Academic Integrity

Academic Integrity is honest behavior in a school setting. Academic integrity is more than the absence of cheating. It is necessary for students to truly learn new skills and develop as human beings. By struggling with her own studies and by making honest mistakes and discoveries, a student learns about the world and herself. Using another's work inappropriately prevents this intellectual and emotional growth.

Academic Dishonesty (i.e, "cheating") is any form of deceit, fraud, or misrepresentation in academic work. Academic dishonesty is the opposite of learning, because it prevents the student-writer from genuinely learning and responding to material. Plagiarism is one of the most serious forms of academic dishonesty.

Plagiarism is using other people's ideas and/or words without clearly acknowledging the source of the information. If a student uses content or grammatical structures from the internet, a professional writer, or another student and does not inform the reader, he plagiarizes. A student who allows another student to use his writing without attribution is also guilty of plagiarism.

Cheating will not be tolerated in this class. All major written assignments completed outside of class time must be submitted via www.turnitin.com. A student found to be cheating for the first time will receive a zero for the assignment and the Dean of Students will be notified. In the event of a second offense confirmed by the Dean of Students, the student will fail the course. A third instance of cheating will result in that student being dismissed from the American University of Iraq, Sulaimani. Students are directed to the AUIS Honor Code and the Academic Integrity policy section of the Academic Catalog (available online at www.auis.edu.krd). These documents provide

guidance in cases of academic dishonesty, so we should all be familiar with them.

12   Revisions to the Syllabus

This syllabus is designed around the course description proposed and announced to the students. It is subject to change. It is the duty of the instructor to inform students of changes in a timely fashion. Students are obliged to be cognizant of any change.

13   Course Schedule

Week	Starting Date	Topic
1	Jan. 20, 2019	Java Recap
2	Jan. 27, 2019	Introduction to Classes and Objects
3	Feb. 3, 2019	Inheritance
		Assignment 1 deadline on February 4th at 9 A.M.
4	Feb. 10, 2019	Polymorphism and Interfaces
5	Feb. 17, 2019	Exception Handling
		Assignment 2 deadline on February 18th at 9 A.M.
6	Feb. 24, 2019	Unit Testing
7	Mar. 3, 2019	GUI - Part 1
		Exam 1 on March 4th - During Class Time
8	Mar. 10, 2019	GUI - Part 2
9	Mar. 17, 2019	**Nawroz, Spring break**
10	Mar. 24, 2019	Basic Java API - Part 1
		Assignment 3 deadline on March 25th at 9 A.M.
11	Mar. 31, 2019	Basic Java API - Part 2
12	Apr. 7, 2019	Accessing Database - Part 1
		Exam 2 on April 8th - During Class Time
13	Apr. 14, 2019	Accessing Database - Part 2
		Assignment 4 deadline on April 15th at 9 A.M.
14	Apr. 21, 2019	Comprehensive Review and Course Closure