1	**Course title**	AI Programming
2	**Course number**	1915111
3	**Credit hours**	3
	Contact hours (theory, practical)	3
4	**Prerequisites/corequisites**	
5	**Program title**	BSc in Artificial Intelligence
6	**Program code**	
7	**Awarding institution**	University of Jordan
8	**School**	King Abdullah School for Information Technology
9	**Department**	CIS
10	**Level of course**	2nd year
11	**Year of study and semester (s)**	2nd
12	**Final Qualification**	BSc. in AI
13	**Other department (s) involved in teaching the course**	
14	**Language of Instruction**	English
15	**Teaching methodology**	☐Blended ☐Online
16	**Electronic platform(s)**	☐Moodle ☒Microsoft Teams ☐Skype ☐Zoom ☐Others…………
17	**Date of production/revision**	October, 2021

18 Course Coordinator:

Dr. Reem Al Fayez
r.alfayez@ju.edu.jo

19 Other instructors:

QF-AQAC-03.02.1.3

٢٠ Course Description:

This course builds programming skills for students which is required to develop and implement applications and algorithms of Artificial intelligence. This course will focis on programming using Python. Python is a high-level programming language similar to Java, C++, or C#. This course provides students with the required skills to solve problems by implementing programs using Python. Topics include fundamentals of Python programming, object-oriented programming using Python, Data structures and algorithms, and python packages. This course is lab-based course which is includes in class practical assignments and tasks.

٢١ Course aims and outcomes:

The Artificial Intelligence programming course aspires to train the student with the needed programming skills to start his journey in the AI field.

Course Aims:
To prepare the students to be able to
- Program simple applications in python
- To build a full program in python
- To build complex programs with complex data structures in Python
- To master the Object oriented programming in Python
- To deal with files to perform I/O tasks
- To deal with important packages in Python

٢٢. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1		Getting started	Lectures		Book and Slides
		Variables and simple data types	Lectures		Book and Slides
		Variables and simple data types	Lectures		Book and Slides
2		Lists and tuples	Lectures		Book and Slides
		Operations on Lists	Lectures		Book and Slides
		Hands on Lab	Lectures		Book and Slides
3		Conditional Testing and Looping	Lectures		Book and Slides
		In-lab Exercises: Lists and loops	Lectures		Book and Slides
		More Conditional Testing and Looping	Lectures		Book and Slides
4		Strings	Lectures Lectures		Book and Slides Book and Slides
		Strings functions	Lectures		Book and Slides
		In-lab Exercises: Strings	Lectures		Book and Slides
5		Advanced Data types: Tuples, sets, dictionaries	Lectures		Book and Slides
		Advanced Data types: Tuples, sets, dictionaries	Lectures		Book and Slides
		Input and While Offline Worksheet (Advanced looping)	Lectures Lectures	In Lab assignment	Book and Slides Book and Slides
6		Functions	Lectures Lectures		Book and Slides Book and Slides
		More on Functions	Lectures		Book and Slides
		More on Functions	Lectures		Book and Slides
7		In-lab exercises	Lectures	In Lab assignment	Book and Slides
		Files			Book and Slides
		Midterm Exam			
8		Files and Exceptions	Lectures		Book and Slides
		Files and Exceptions	Lectures		Book and Slides
		Classes	Lectures		Book and Slides
9		More on classes	Lectures Lectures		Book and Slides Book and Slides
		Working with OOP	Lectures		Book and Slides
		Working with OOP	Lectures	In Lab assignment	Book and Slides
10		More on classes	Lectures		Book and Slides
		More on classes	Lectures		Book and Slides

		Program development with OOP	Lectures	In Lab assignment	Book and Slides	
11			Lectures		Book and Slides	
		Lab Exercises	Lectures	In Lab assignment	Book and Slides	
			Lectures		Book and Slides	
		Lab Exercises	Lectures		Book and Slides	
		Practical exam				
12		Classes inheritance	Lectures		Book and Slides	
		Classes inheritance	Lectures	In Lab assignment	Book and Slides	
		In-lab Exercises:	Lectures		Book and Slides	
13		Using Libraries	Lectures		Book and Slides	
		Using Libraries	Lectures		Book and Slides	
		Using Libraries	Lectures		Book and Slides	
14		In lab exercises	Lectures	In Lab assignment	Book and Slides	
		Revision			Book and Slides	
		Final exam				

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz…etc

٢٣ Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Midterm Exam	30	Midterm	7th	Paper-based
Lab based HWs	20	Lab exercises		E-Learning
Final Exam	50	All topics	14th	E-Learning

٢٤ Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform…etc):

Students should have a computer, Internet Connection, Python programming environment

٢٥ Course Policies:

A- *Attendance policies:*
Maximum allowable absence 15% of number of Lectures/Semester
B- *Absences from exams and handing in assignments on time:*
It is the student's responsibility to ensure that he/she is aware of all assignments, announcements and contents of missed sessions
C- *Health and safety procedures:*
University Regulations
D- *Honesty policy regarding cheating, plagiarism, misbehavior:*
It is the student's responsibility to ensure that he/she is adhere with cheating, plagiarism, misbehavior.
E- *Grading policy:*
The grading policy is subject to change at the end of the semester according to the overall performance of students.
F- *Available university services that support achievement in the course:*

٢٦ References:

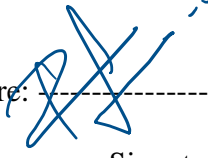| |
|---|
| A- Required book(s), assigned reading and audio-visuals:
Python Crash Course_ A Hands-On, Project-Based Introduction to Programming , eric mathess, 2019
The Practice of Computing Using Python THIRD edition Punch • Enbody, pearson, 2017

B- Recommended books, materials and media:
Online courses for python on coursera and udemy |

٢٧ Additional information:

- Students are encouraged to make heavy use of the library, E-LIBRARY http://ezlibrary.ju.edu.jo/login or from within the university using (http://e-library)

- The instructor can make changes to this syllabus when necessary.

- University regulations will be preserved at all times

Name of Course Coordinator: --Dr. Reem Al Fayez--Signature: --------------- Date: November, 2021

Head of Curriculum Committee/Department: --------------------------- Signature: -------------------------

Head of Department: --- Signature: ----------------------

Head of Curriculum Committee/Faculty: --------------------------------------- Signature: ------------------

Dean: --Signature: ---