

**O‘ZBEKISTON RESPUBLIKASI**  
**OLYI TA‘LIM, FAN VA INNOVATSIYALAR VAZIRLIGI**  
**SAMARQAND DAVLAT ARHITEKTURA – QURILISH UNIVERSITETI**

**“KELISHILGAN”**  
o‘quv ishlari bo‘yicha  
prorektor  
M.T.Shodmonqulov  
Ro‘yxatga olindi: № 11a  
«30» avgust 2024 yil



**INFORMATIKA FANI BILAN TANISHUV**  
**FAN DASTURI**

**Bilim sohasi:** 700 000 – Muhandislik, ishlov berish va qurilish sohalari  
**Ta'lim sohasi:** 730 000 – Arxitektura va qurilish  
**Ta'lim yo'nalishi:** 60730700 – Qiymat injiniringi va ko'chmas mulkni boshqarish

**Kurs ma'lumotlari**  
Course Information Form

Modul kodi Code KRM 1030	O'quv yili 2024-2025	Semestr I	ECTS – Kreditlar 1-semestr -4			
Modul turi Majburiy	Ta'lim tili O'zbek/rus		Auditoriya soatlari			Mustaqil ta'lim (soat/hafta) Independent Education (hour/week)
Fan nomi Title	Jami yuklama		Ma'ruza (soat/hafta) Lecture (hour/week)	Amaliy (soat/hafta) Practical (hour/week)	Laboratoriya (soat/hafta) Laboratory (hour/week)	
Informatika fani bilan tanishuv	1-semestr -120		1-semestr -2	1-semestr -2		1-semestr -4

Dastlabki shart Prerequisite	Yo'q None
---------------------------------	--------------

Semestr Semestr	Bahorgi Spring
--------------------	-------------------

Kurs tili Course language	O'zbek, Ingliz, Rus Uzbek, English, Russian
O'quv kursi Level of Course	Birinchi kurs First Cycle
Ta'lim yo'nalishlari Course type	60730700 - Qiymat injiniringi va ko'chmas mulkni boshqarish
Kurs toifasi Course Category	Asosiy Core Courses
Dars shakli Mode of Delivery	An'anaviy (Yuzma – yuz muloqot) Face – to - face

Ma'sul kafedra Owner academic unit	Axborot texnologiyalari Information technology
Kursga ma'sul Cours Coordinator	K.M. Shaimov
O'qituvchilar Instructor(s)	K.S. Islamov, Q.M. G'aybulov
Yordamchilar Asistant(s)	J.K. Haydarov

Fanni o'qitishdan maqsad Course objectives	Informatika va axborot texnologiyalari haqidagi bilimlarni mustahkamlash, analitik fikrlashni rivojlantirish Consolidation of general information texnology, development of analytical thinking.
Fanning mazmuni Course content	Kompyuterni tashkil etuvchilari, Algoritmalar, Python dasturlash tilida vektor va matritsa operatsiyalari, Kiritish va chiqarish operatorlari, Python dasturlash tilida grafik fayllar bilan ishlash, Matematik funksiyalar grafiklarini chizish. Computer Organization; Algorithms; Programming Languages and Data Structures; Fundamental of Programming Language, Expressions, Numbers, Operators, Functions; Vector and Matrix Operations; Basic Data Analysis, Conditional Statements, Loops, Input-Output Operations, Graphics, Mixed Examples.
Tavsiya qilingan yoki talab qilinadigan adabiyotlar ro'yxati Recommended Or Required Reading	<b>Asosiy adabiyotlar:</b> 1. Eric Matthes. Python Crash Course Paperback.England 2015.205p. 2. Discovering Computers 2016. Tools, Apps, Devices, and the Impact of Texnology. 691 pg. 3. Krishna Rungta. Learn Python in 1 Day: Complete Python Guide with Examples. India 2016. -182 p.

	<p>4. Narasimha Karumanchi. Data Structure and Algorithmic Thinking with Python Paperback. India 2015. 170p.</p> <p>5. Lentin Joseph, Fundamentals of Python for Robotics Programming, 2018</p> <p>6. John Hunt, A Beginners Guide to Python 3 Programming, <a href="http://www.springer.com/series/7592">http://www.springer.com/series/7592</a>, 2019</p> <p>7. Michael J. Ware, Introduction to Python Department of Physics and Astronomy Brigham Young University, 2019</p> <p>8. Hetland, M. L., Norton, P, Wilson, H. B. Introduction to Python Programming, Lecture Notes used in Semester 1 of the module Introduction to computational Physics (U24200, years 2019/2020, 2020/2021)</p> <p>9. Axadov A., Nazarov F. Python tilida dasturlash asoslari (1-qism), SamDU-2020.</p> <p><b>Qo'shimcha adabiyotlar:</b></p> <p>10. Eshtemirov S. Nazarov F. Algoritmash va dasturlash asoslari. O'quv qo'llanma. Samarqand 2019. -208 b.</p> <p>11. U.A. Nazarov, Informatika faniga kirish, darslik – 2023</p> <p>12. M.T. Shodmonqulov Informatika faniga kirish, o'quv qo'llanma (amaliy mashg'ulotlarni bajarish uchun), "Ilm Ziyozakat" 2023 yil.</p> <p><b>Axborot manbalari:</b></p> <p>1. <a href="http://www.lex.uz">www.lex.uz</a> – O'zbekiston Respublikasi Qonun hujjatlari ma'lumotlari milliy bazasi;</p> <p>2. <a href="http://www.bologna.yildiz.edu.tr/index.php?r=program/bachelor">http://www.bologna.yildiz.edu.tr/index.php?r=program/bachelor</a></p> <p>3. <a href="https://dasturchi.uz/programming-tutorials/python-darsliklar">https://dasturchi.uz/programming-tutorials/python-darsliklar</a></p> <p>4. <a href="https://pythonworld.ru/samouchitel-python">https://pythonworld.ru/samouchitel-python</a></p>
<b>Tavsiya etilgan qo'shimcha dastur komponentlari</b> Recommended Optional Program Components	Yo'q\ (bor bo'lsa yoziladi)  None

<b>Kursni o'rganish natijalari</b>	
Course learning outcomes	
1	Ushbu kursni muvaffaqiyatli tamomlagan talabalar fan dasturi bo'yicha chuqur amaliy va nazariy bilimlarga ega bo'ladi; Students who successfully complete this course; they will have in-depth practical and theoretical knowledge of the science program;
2	Dasturlash tilida dasturini kompilyatsiya qila oladilar; Can compile a program in a programming language;
3	Dasturlash tilida funksiyalarni yoza oladilar; They can write functions in a programming language;
4	Dasturlash tilida operatorlar shartli operatorlar (if, elif, goto,...) va sikllar (for, do while) bilan ishlay oladilar; In a programming language, operators can work with conditional operators (if, elif, goto,...) and loops (for, do while)
5	Dasturlash tilida massivlar va matritsalaridan foydalana olish qobiliyatiga ega bo'ladi; They will have the ability to use arrays and matrices in a programming language;
6	Talabalar dasturlash tilida grafikadan foydalana oladilar; Students can use graphics in a programming language;
7	O'z fikr-mulohaza va xulosalarini asosli tarzda aniq bayon eta olish malakalariga ega bo'ladi. They will have the skills to express their opinions and conclusions clearly.

<b>Haftalik mavzular va tegishli tayyorgarlik ishlari</b>		
Weekly Subjects and Related Preparation Studies		
Hafta Week	Mavzular Themes	Resurslar Related preparation
1.	Kirish. Zamonaviy kompyuterlarning tashkil etuvchilari. Kompyuterlarning asosiy va qo'shimcha qurilmalari.	2 - adabiyot (I-II bob)
2.	Algoritmilar haqida umumiy tushunchalar. Algoritmarni yaratish usullari va xossalari. Chiziqli, tarmoqlanuvchi va	1,4,7-adabiyotlar

	takrorlanuvchi algoritmlar..	
3.	Dasturlash tili asoslari va klassifikatsiyasi. Python dasturlash tili va uning imkoniyatlari. Translyator, kompilyatorlar va interpretatorlar.	1,6,7-adabiyotlar
4.	Python dasturlash tilida ineraktiv rejim, kiritish va chiqarish operatorlari. O'zgaruvchi va o'zgarmaslar.	1, 5, 7, 9 - adabiyotlar
5.	Python dasturlash tilida arifmetik, mantiqiy va munosabat amallari.	7-adabiyot (II bob), 3- adabiyot (I bob)
6.	Python dasturlash tilida arifmetik ifodalar va standart funksiyalar.	1, 7, 9 – adabiyotlar
7.	Python dasturlash tilida chiziqli tarkibli jarayonlarni dasturlash.	7, 9 – adabiyotlar
8.	Python dasturlash tilida tarmoqlanuvchi tarkibli jarayonlarni dasturlash.	7, 9 – adabiyotlar
9.	Python dasturlash tilida takrorlanuvchi tarkibli jarayonlar va parametr bo'yicha dasturlash. For(sikl) operatori. Ichma-ich joylashgan sikllarni tashkil qilish.	1,7,8,9 – adabiyotlar
10.	Sikl qadamlarini tashlab o'tish va sikllarni muddatidan oldin tugatish. Break va Continue operatori va ularning umumiy ko'rinishi.	3,7,8,9 – adabiyotlar
11.	Python dasturlash tilida shartli takrorlanuvchi jarayonlarni dasturlash. While operatori va uning umumiy ko'rinishi.	5,7,8,9 – adabiyotlar
12.	Python dasturlash tilida massivlar va ulardan foydalanish. Bir o'lchovli massivlar. Ikki o'lchovli massivlar. Random funksiyasi. Bir va ikki o'lchovli massivlarga oid dasturlar	2, 7,8,9 - adabiyotlar
13.	Python dasturlash tilida murakkab turlar ro'yxat, kortej, lug'at, to'plam va massivlar.	1,7,8 - adabiyotlar
14.	Python dasturlash tilida funksiyalar va protseduralar tushunchalari. Qism dasturlar, Funksiya tanasini faollashtirish, Global va lokal o'zgaruvchilar, Rekursiv funksiyalar tushunchalari.	7,8,11 - adabiyotlar
15.	Python dasturlash tilida grafik fayllar bilan ishlash. Grafik muhitini faollashtirish. Matematik funksiyalar grafiklarini chizish.	7,8,12 – adabiyotlar

<b>Baholash jarayoni</b>		
Evaluation System		
<b>Mashg'ulot turi</b> Activities	<b>Soni</b> Number	<b>Baholash</b> Percentage of Grade
<b>Darsga qatnashish</b> Attendance / participation	30	15
<b>Laboratoriya ishi</b> Laboratory		
<b>Amaliy ish (qo'shimcha vazifa)</b> Application		
<b>Kurs ishi</b> Field work		
<b>Maxsus kurs amalyoti (ish joyida)</b> Special course internship (work placement)		
<b>Testlar</b> Quizzes / studio crtics		
<b>Uyga vazifani baholash</b> Homework assignments	5	10
<b>Ijodiy ish (taqdimot)</b> Presentations / jury	5	5
<b>Loyiha ishi</b> Project		
<b>Seminar</b> Seminar / workshop		
<b>Oraliq nazorat</b> Mid -Terms	2	20

<b>Yakuniy nazorat</b> Final	1	50
<b>O'zlashtirish ko'rsatgichi</b> Percentage of in – term studies		50
<b>Yakuniy imtihon bahosi</b> Percentage of final examination		50
<b>Jami</b> Total		100

<b>ECTS taqsimoti</b> ECTS workload table			
<b>Topshiriqlar</b> Activities	<b>Soni</b> Number	<b>Davomiyligi (soat)</b> Duration (hour)	<b>Umumiy yuklama</b> Total workload
<b>Mashg'ulot soati</b> Course hours	30	2	60
<b>Laboratoriya ishi</b> Laboratory			
<b>Amaliy ish (qo'shimcha vazifa)</b> application			
<b>Kurs ishi</b> Field work			
<b>Mustaqil ta'lim (maslahat)</b> Study hours out of class	5	2	10
<b>Maxsus kurs amalyoti (ish joyida)</b> Special course internship (work placement)			
<b>Uyga vazifani baholash</b> Homework assignments	5	2	10
<b>Testlar / Viktorina</b> Quizzes / studio critics			
<b>Loyiha ishi</b> Project			
<b>Ijodiy ish (taqdimot)</b> Presentations / seminar	5	1	5
<b>Oraliq nazorat</b> Mid – terms (Examination +Examination prep. Duration)	2	10	20
<b>Yakuniy nazorat (nazorat va nazoratga tayyorlanish soati)</b> Final (examination +examination prep.Duration)	1	15	15
		<b>Jami yuklama</b> Total workload	120
		<b>Jami yuklama / 30 (soat)</b> Total workload / 30(h)	120/30=4
		<b>Kredit</b> ECTS credit	4

<b>Qo'shimcha eslatmalar</b> Extra Notes	Yo'q\ (bor bolsa yoziladi) None
---	------------------------------------

Fan dasturi Mirozo Ulug'bek nomidagi Samarqand davlat Arxitektura-qurilish universiteti kengashning 2024 yil 30-avgustdagi 1-sonli bayonnomasi bilan ma'qullangan.

**Kafedra mudiri:**

Shaimov K.M.

**Tuzuvchilar:**

Shaimov K.M.

Islamov K.S.

G'aybulov Q.M.