





**Kurs ma'lumotlari**  
Course Information Form

<b>Modul kodi</b> Code ITT1050	<b>O'quv yili</b> 2024-2025	<b>Semestr</b> 2	<b>ECTS – Kreditlar</b> 1-semestr -4			
<b>Modul turi</b> Majburiy	<b>Ta'lim tili</b> O'zbek		<b>Auditoriya soatlari</b>			<b>Mustaqil ta'lim</b> (soat/hafta) Independent Education (hour/week)
<b>Fan nomi</b> Title	<b>Jami yuklama</b>	<b>Ma'ruza (soat/hafta)</b> Lecture (hour/week)	<b>Amaliyot (soat/hafta)</b> Practical (hour/week)	<b>Laboratoriya (soat/hafta)</b> Laboratory (hour/week)		
<b>Iqtisodchilar uchun matematika 2</b> Mathematics for Economists 2	2-semestr -120		2-semestr -3			2-semestr -5

<b>Dastlabki shart</b> Prerequisite	<b>Yo'q</b> None
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<b>Semestr</b> Semestr	<b>Bahorgi</b> Spring
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<b>Kurs tili</b> Course language	<b>O'zbek</b> Uzbek
<b>O'quv kursi</b> Level of Course	<b>Birinchi kurs</b> First Cycle
<b>Ta'lim yo'nalishlari</b> Course type	60410100-Iqtisodiyot 60730700-Qiyamat injiniringi va ko'chmas mulkni boshqarish
<b>Kurs toifasi</b> Course Category	<b>Asosiy</b> Core Courses
<b>Dars shakli</b> Mode of Delivery	<b>An'anaviy (Yuzma – yuz muloqot)</b> Face – to – face

<b>Ma'sul kafedra</b> Owner academic unit	<b>Ijtimoiy va tabiiy fanlar kafedrasi</b> Department of social and natural sciences
<b>Kursga ma'sul</b> Cours Coordinator	Shodiyev Kamoliddin
<b>O'qituvchilar</b> Instructor(s)	Shodiyev Kamoliddin, G'aybulov Yuldoş
<b>Yordamchilar</b> Asistant(s)	-

<b>Fanni o'qitishdan maqsad</b> Course objectives	Iqtisodchilar uchun matematika I kursining davomi bo'lgan ushbu kursning maqsadi integral, cheksiz qator va ketma-ketliklarning nazariy tamoyillari va iqtisodiy qo'llanilishi hamda oldingi semestrda o'qitiladigan chiziqli algebra asoslarini o'rgatishdir.  The aim of this course, which is a continuation of Mathematics for Economists I, is to teach the theoretical principles and economic applications of integral, infinite series and sequences and linear algebrabasing on those taught in the previous semester.
<b>Fanning mazmuni</b> Course content	Ushbu kursning mazmuni integral, cheksiz qatorlar va ketma-ketliklar ya asosiy chiziqli algebra bilan bog'liq bo'lgan mavzulardan iborat. The content of this course is comprised subjects related to integration, infinite series and sequences and basic linear algebra.
<b>Tavsiya qilingan yoki talab qilinadigan adabiyotlar</b>	1. Stewart, J., Kalkülüs: Kavram ve Kapsam, çev. Alpay, Ş. vd, Brooks/Cole, 2007 Ders Notları Örnek sorular



<p>ro'yxati Recommended Or Required Reading</p>	<ol style="list-style-type: none"> <li>2. Шарахметов Ш., Наимжонов. Б., Иқтисодчилар учун математика. Дарслик - Т.: 2007, 304 бет.</li> <li>3. Sh. Sharaxmetov, O. Qurbonov, Iqtisodchilar uchun matematika, ISBN 978-9943-07-554-2, O'zbekiston faylasuflari jamiyati nashriyoti, 2017, 384 bet.</li> <li>4. Claudio Canuto, Anita Tabacco. Mathematical Analysis I. Sprinder-Verlag, Italia, Milan, 2008. 212 p.</li> <li>5. Claudio Canuto, Anita Tabacco. Mathematical Analysis II. Sprinder-Verlag, Italia, Milan, 2010.</li> <li>6. Erving Kreyszig, Herbert Kreyszig, Edward Normuton. Advanced engineering Mathematics. New York, 2011.</li> <li>7. К.Н.Лунгу, Е.В.Макаров. Высшая математика. Руководство к решению задач. Ч.1 и 2 – М.: Физматлит, 2007 г.</li> <li>8. Черненко В.Д. Высшая математика в примерах и задачах. 1том. СПб. "Политехника", 2003 й.</li> <li>9. Danko P.E., Popov A.G., Kojevnikova T.E. Oliy matematika mashqlar va masalalarda. 1-qism.– Toshkent, "O'qituvchi", 2009-y.</li> <li>10. Danko P.E., Popov A.G., Kojevnikova T.E. Oliy matematika mashqlar va masalalarda. 2-qism.– Toshkent, "O'qituvchi", 2009-y.</li> <li>11. Минорский В.П. Олий математикадан масалалар тўплами.– Т.: "Ўқитувчи", 1982 й.</li> <li>12. Тожиев Ш.А. Олий математикадан масалалар ечиш.. –Тошкент, "Ўзбекистон", 2002 й.</li> <li>13. T.Jo'rayev, A.Sa'dullaev, G.Xudayberganov, X.Mansurov, A.Vorisov. Oliy matematika asoslari. 1-qism, T.: «O'zbekiston», 1998.</li> <li>14. T.Jo'rayev, A.Sa'dullaev, G.Xudayberganov, X.Mansurov, A.Vorisov. Oliy matematika asoslari. 2-qism, T.: «O'zbekiston», 1998.</li> <li>15. Шарахметов Ш., Асракулова Д.С., Курбонов Ж.Ж., Иқтисодчилар учун олий математикадан масалалар тўплами, -Т.: ТДИУ. 2012 й.</li> </ol>
<p>Tavsiya etilgan qo'shimcha dastur komponentlari Recommended Optional Program Components</p>	<p>Yo'q (bor bolsa yoziladi)</p> <p>None</p>

## Kursni o'rganish natijalari

Course learning outcomes

1.	<p>Talabalar hodisalarni matematik atamalar yordamida ifodalay oladilar. The students will be able to express phenomena by using mathematical terms.</p>
2.	<p>Talabalar hisobning asosiy teoremasi, funktsiyaning primitivi, qator va ketma-ketliklarning yaqinlashishi va uzoqlashishi, tenglamalar sistemasi, matritsa teskarisi, determinant va xos qiymat yoki xos vektor kabi tushunchalar bilan ishlay oladilar. The students will be able to work with concepts such as fundamental theorem of calculus, primitive of a function, convergence and divergence of series and sequences, system of equations, inverse of a matrix, determinant and eigenvalue or eigenvector.</p>
3.	<p>Talabalar matematik tahlilni tahlil qila oladilar va matematikadan olingan tushunchalarni iqtisodga tadbiq etadilar. The students will be able to analyze mathematical analysis and apply the understanding of mathematics to economics.</p>

## Haftalik mavzular va tegishli tayyorgarlik ishlari

Weekly Subjects and Related Preparation Studies

Hafta Week	Mavzular Themes	Resurslar Related preparation
1.	Boshlang'ich funksiya, aniqmas integral va uning xossalari. Aniqmas integrallar jadvali. Integralning usullari.	1-15 darsliklar
2.	Sodda ratsional kasr funksiyalar va ularni integrallash.	1-15 darsliklar
3.	Aniq integralning ta'rifi. Aniq integralning xossalari. Aniq integralni hisoblash formulasi.	1-15 darsliklar
4.	Aniq integralning tatbiqlari. Aniq integral yordamida: yuzani, yoy	1-15 darsliklar



	uzunligini, hajmni hisoblash.	
5.	Funksiyaning o'rtacha qiymati. Aniq integralni taqribiy hisoblash. Iqtisodiyotda qo'llanilishi.	1-15 darsliklar
6.	Sonli qator va uning yig'indisi. Sonli qator yaqinlashishining zarur va yetarli shartlari. Yaqinlashuvchi sonli qatorlarning xossalari.	1-15 darsliklar
7.	Funksional qator tushunchasi. Darajali qaror va uning yaqinlashish sohasi. Teylor va Makloren qatorlari.	1-15 darsliklar
8.	Funksiyani darajali qatorga yoyish. Elementar funksiyalarning darajali qatorga yoyilmasi.	1-15 darsliklar
9.	Determinantlar va ularning xossalari. Minor va algebraik to'ldiruvchi. Determinantning LU yoyilmasi.	1-15 darsliklar
10.	Chiziqli algebraik tenglamalar sistemasini Kramer formulasi yordamida yechish.	1-15 darsliklar
11.	Matritsa va uning turlari. Matritsa ustida algebraik amallar.	1-15 darsliklar
12.	Teskari matritsa tushunchasi. Xos matritsa. Teskari matritsa.	1-15 darsliklar
13.	Matritsani rangi tushunchasi. Matritsalar ustida elementar almashtirishlar. Ekvivalent matritsalar.	1-15 darsliklar
14.	Chiziqli algebraik tenglamalar sistemasini matritsaviy ko'rinishda ifodalash va yechish. Kroneker-Kopelli teoremasi. Algebraik vektor tushunchasi. Kvadrat matritsaga mos xos vektor va xos qiymat. Xarakteristik tenglama.	1-15 darsliklar
15.	Chiziqli algebraik tenglamalar sistemasini matritsaviy ko'rinishda ifodalash va yechish. Kroneker-Kopelli teoremasi. Algebraik vektor tushunchasi. Kvadrat matritsaga mos xos vektor va xos qiymat. Xarakteristik tenglama.	1-15 darsliklar

## Baholash jarayoni

Evaluation System

Mashg'ulot turi Activities	Soni Number	Baholash Percentage of Grade
<b>Darsga qatnashish</b> Attendance / participation	15	20
<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		
<b>Ijodiy ish (taqdimot)</b> Presentations / jury		
<b>Loyiha ishi</b> Project		
<b>Seminar</b> Seminar / workshop		
<b>Oraliq nazorat</b> Mid -Terms	2	30
<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

## ECTS taqsimoti

ECTS workload table

Topshiriqlar Activities	Soni Number	Davomiyligi (soat) Duration (hour)	Umumiy yuklama Total workload
Mashg'ulot soati Course hours	15	3	45
Laboratoriya ishi Laboratory			
Amaliy ish (qo'shimcha vazifa) application			
Kurs ishi Field work			
Mustaqil ta'lim Study hours out of class	15	5	75
Maxsus kurs amalyoti (ish joyida) Special course internship (work placement)			
Uyga vazifani baholash Homework assignments			
Testlar / Viktorina Quizzes / studio critics			
Loyiha ishi Project			
Ijodiy ish (taqdimot) Presentations / seminar			
Oraliq nazorat Mid – terms (Examination +Examination prep. Duration)			
Yakuniy nazorat (nazorat va nazoratga tayyorlanish soati) Final (examination +examination prep. Duration)			
Jami yuklama Total workload			120
Jami yuklama / 30 (soat) Total workload / 30(h)			120/30=4
Kredit ECTS credit			4

Qo'shimcha eslatmalar  
Extra Notes

Yo'q\ (bor bolsa yoziladi)  
None

Fan dasturi Mirozo Ulug'bek nomidagi Samarqand davlat Arxitektura-qurilish universitet kengashining 2024 yil \_\_\_-avgustdagi \_\_\_-sonli bayonnomasi bilan ma'qullangan.

Kafedra mudiri:

A. T. Quldoshev

Tuzuvchilar:

Y. G'aybulov