

O'ZBEKISTON RESPUBLIKASI  
OLIY TA'LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

SAMARQAND DAVLAT ARXITEKTURA – QURILISH UNIVERSITETI

“KELISHILGAN”  
o‘quv ishlari bo‘leha  
prorektor   
M.T.Shodmonqulov  
Ro‘yxatga olindi: № 29/a  
«30» avgust 2024 yil



BIZNES MATEMATIKASI 1  
FAN DASTURI

**Bilim sohasi:** 400000 – Biznes, boshqaruv va huquq

**Ta’lim sohasi:** 410000 – Biznes va boshqaruv

**Ta’lim yo‘nalishi:** 60410900 - Biznesni boshqarish

Samarqand – 2024

**Kurs ma'lumotlari**  
**Course Information Form**

|  |                                |                     |  |   |  |
|--|--------------------------------|---------------------|--|---|--|
| <b>Modul kodi</b><br><b>Code</b><br><b>BIZ1030</b> | <b>O'quv yili</b><br>2024-2025 | <b>Semestr</b><br>1 | <b>ECTS – Kreditlar</b><br>1-semestr -4                  |   |  |
| <b>Modul turi</b><br>Majburiy                      | <b>Ta'lif tili</b><br>O'zbek   |                     | <b>Auditoriya soatlari</b>                               |   |  |
| <b>Fan nomi</b><br>Title                           | <b>Jami yuklama</b>            |                     | <b>Ma'ruza</b><br>(soat/hafta)<br>Lecture<br>(hour/week) | <b>Amaliyot</b><br>(soat/hafta)<br>Practical<br>(hour/week) | <b>Laboratoriya</b><br>(soat/hafta)<br>Laboratory<br>(hour/week) |
| Biznes matematika 1<br>Business mathematics 1      | 1-semestr -120                 |                     | 1-semestr -2   |   | 1-semestr -6   |

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|--|---------------------|
| <b>Dastlabki shart</b><br>Prerequisite | <b>Yo'q</b><br>None |
|--|---------------------|

|                           |                      |
|---------------------------|----------------------|
| <b>Semestr</b><br>Semestr | <b>Kuzgi</b><br>Fall |
|---------------------------|----------------------|

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| <b>Kurs tili</b><br>Course language      | <b>O'zbek</b><br>Uzbek                                     |
| <b>O'quv kursi</b><br>Level of Course    | <b>Birinchi kurs</b><br>First Cycle                        |
| <b>Ta'lif yo'nashlari</b><br>Course type | 60410900 - Biznesni boshqarish                             |
| <b>Kurs toifasi</b><br>Course Category   | <b>Asosiy</b><br>Core Courses                              |
| <b>Dars shakli</b><br>Mode of Delivery   | <b>An'anaviy (Yuzma – yuz muloqot)</b><br>Face – to - face |

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|--|---|
| <b>Ma'sul kafedra</b><br>Owner academic unit | <b>Ijtimoiy va tabiiy fanlar kafedrasи</b><br>Department of social and natural sciences |
| <b>Kursga ma'sul</b><br>Cours Coordinator    | Xudayorov Ulug'bek  |
| <b>O'qituvchilar</b><br>Instructor(s)        | Xudayorov Ulug'bek  |
| <b>Yordamchilar</b><br>Asistant(s)           | -   |

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| <b>Fanni o'qitishdan maqsad</b><br>Course objectives | Analitik fikrlash, modellashtirish, hayotiy muammolarni hal qilish va sharhlash qibiliyatini shu tarzda egallash.<br><br>Gaining the ability of analytical thinking, modeling, solving and interpreting real life problems in this way.  |
| <b>Fanning mazmuni</b><br>Course content             | Sonlar, darajalar va irratsional ifodalar, identifikatsiya va faktorizatsiya, ratsional ifodalar va ularni soddalashtirish, Tenglamalar va grafiklar, Aloqa va funksiya, Biznes ilovalari, Moliyaviy matematika, Limitlar, Uzluksizlik, Hosila, Hosila ilovalari: Noaniq shakllar, maksimum va minimumlarni hisoblash, hosilaviy biznes ilovalari.<br><br>Numbers, Exponents and radical expressions, Identities and factorization, Rational expressions and simplification, Equations and graphs, Relation and function, Business Applications, Financial |

|   |   |
|---|---|
|   | Mathematics, Limit, Continuity, Derivative, Derivative applications: Indefinite shapes, maximum-minimum calculation, derivative business applications   |
| Tavsiya qilingan yoki talab qilinadigan adabiyotlar ro'yxati<br>Recommended Or Required Reading | <ol style="list-style-type: none"> <li>1. Basic Mathematical Analysis (for Business, Economics, Life Sciences and Social Sciences), 11th Edition, Authors: Ernest F. Haeussler, Jr., Richard S. Paul, Richard J. Wood, Translators: S. Demir, Ö. Uzun, AO Balce, A. Çağlar, Akademi Publishing, 2013.</li> <li>2. For General Mathematics, Business, Economics, Life and Social Sciences / Calculus for Business, Economics, Life Sciences And Social Sciences, Barnett, Raymond A., Michael R. Ziegler, and Karl E. Byleen., Translated by Arif Sabuncuoğlu, 2019.</li> <li>3. SH. SHaraxmetov, O.T. Kurbanov,Iqtisodchilar uchun matematika., O'z. faylasuflari milliy jamiyati nashriyoti., T-2017</li> <li>4. Xurramov Sh.R. Oliy matematika. T.: «Tafakkur», 1-jild. 2018.</li> <li>5. Xurramov Sh.R. Oliy matematika. Misol va masalalar. Nazorat topshiriqlari. 1- qism, 2- qism. T: Fan va texnologiyalar, 2015.</li> </ol> |
| Tavsiya etilgan qo'shimcha daştur komponentlari<br>Recommended Optional Program Components      | <p>Yo'q\ (bor bolsa yoziladi)</p> <p>None</p>   |

## Kursni o'rGANISH natijalari

Course learning outcomes

|    |   |
|----|---|
| 1. | Asosiy matematik bilimlarni olish<br>Gaining basic math knowledge   |
| 2. | Analitik fikrlash qobiliyatini egallash<br>Gaining analytical thinking ability  |
| 3. | Abstrakt fikrlash qobiliyatini egallash<br>Gaining the ability to think abstractly  |
| 4. | Haqiqiy hayot muammolarini modellashtirish, yechish va sharhlash qobiliyatiga ega bo'lish<br>Gaining the ability to model, solve and interpret real life problems |

## Haftalik mavzular va tegishli tayyorgarlik ishlari

Weekly Subjects and Related Preparation Studies

| Hafta<br>Week | Mavzular<br>Themes  | Resurslar<br>Related preparation |
|---------------|---|----------------------------------|
| 1.            | Haqiqiy sonlar to'plami, Funksiyalar, Maxsus funksiyalar.   | 1-4-darsliklar                   |
| 2.            | Funksiyalarning kombinatsiyasi. Murakkab funksiyalar, teskari funksiya, to'g'ri burchakli koordinatalar sistemasida grafiklar.                | 1-4-darsliklar                   |
| 3.            | Simmetriya, Funksiya grafiklarini ko'chirish va tasvirlash, to'g'ri chiziqlar, chiziqli funksiyalar va uning tatbiqlari                       | 1-4-darsliklar                   |
| 4.            | Kvadrat funksiyalar, chiziqli tenglamalar sistemalari   | 1-4-darsliklar                   |
| 5.            | Ko'rsatkichli funksiyalar, logarifmik funksiyalar.  | 1-4-darsliklar                   |
| 6.            | Logarifmlarning xossalari. Logarifmik va ko'rsatkichli tenglamalar.   | 1-4-darsliklar                   |
| 7.            | Sonli ketma-ketliklar   | 1-4-darsliklar                   |
| 8.            | Funksiyalarning limitlari.  | 1-4-darsliklar                   |
| 9.            | Hosilaning ta'rifи, uning geometrik, mexanik va iqtisodiy ma'nolari. Differensiallash qoidalari. Asosiy elementar funksiyalarning hosilalari. | 1-4-darsliklar                   |
| 10.           | Differensiallanuvchanlik va uzluksizlik. Ko'paytirish va bo'lish qoidalari, murakkab funksiyaning hosilasi                                    | 1-4-darsliklar                   |
| 11.           | Logarifmik funksiyalarning hosilasi, ko'rsatkichli funksiyalarning hosilalari   | 1-4-darsliklar                   |

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|-----|--|----------------|
| 12. | Oshkormas funksiyani differensiallash, logarifmik differensial                     | 1-4-darsliklar |
| 13. | Yuqori tartibli hosilalar. Funksiyaning ekstremumi                                 | 1-4-darsliklar |
| 14. | Yopiq sohadagi funksiyaning ekstremum qiymatlari. Funksiya grafigining qavariqligi | 1-4-darsliklar |
| 15. | Funksiyani to'liq tekshirish va grafigini chizish.                                 | 1-4-darsliklar |

## Baholash jarayoni

Evaluation System

| Mashg'ulot turi<br>Activities   | Soni<br>Number | Baholash<br>Percentage of Grade |
|---|----------------|---------------------------------|
| Darsga qatnashish<br>Attendance / participation                                 | 15             | 20                              |
| Laboratoriya ishi<br>Laboratory   |                |                                 |
| Amaliy ish (qo'shimcha vazifa)<br>Application                                   |                |                                 |
| Kurs ishi<br>Field work   |                |                                 |
| Maxsus kurs amalyoti (ish joyida)<br>Special course internship (work placement) |                |                                 |
| Testlar<br>Quizzes / studio critics   |                |                                 |
| Uyga vazifani baholash<br>Homework assignments                                  |                |                                 |
| Ijodiy ish (taqdimot)<br>Presentations / jury                                   |                |                                 |
| Loyiha ishi<br>Project  |                |                                 |
| Seminar<br>Seminar / workshop   |                |                                 |
| Oraliq nazorat<br>Mid -Terms  | 2              | 30                              |
| Yakuniy nazorat<br>Final  | 1              | 50                              |
| O'zlashtirish ko'rsatgichi<br>Percentage of in - term studies                   |                | 50                              |
| Yakuniy imtihon bahosi<br>Percentage of final examination                       |                | 50                              |
| Jami<br>Total   |                | 100                             |

## ECTS taqsimoti

ECTS workload table

| Topshiriqlar<br>Activities  | Soni<br>Number | Davomiyligi (soat)<br>Duration (hour) | Umumiy yuklama<br>Total workload |
|---|----------------|---------------------------------------|----------------------------------|
| Mashg'ulot soati<br>Course hours  | 15             | 2                                     | 30                               |
| Laboratoriya ishi<br>Laboratory   |                |                                       |                                  |
| Amaliy ish (qo'shimcha vazifa)<br>application                                   |                |                                       |                                  |
| Kurs ishi<br>Field work   |                |                                       |                                  |
| Mustaqil ta'lim<br>Study hours out of class                                     | 10             | 9                                     | 90                               |
| Maxsus kurs amalyoti (ish joyida)<br>Special course internship (work placement) |                |                                       |                                  |
| Uyga vazifani baholash<br>Homework assignments                                  |                |                                       |                                  |
| Testlar / Viktorina   |                |                                       |                                  |

|  |  |          |  |
|--|--|----------|--|
| Quizzes / studio critics   |  |          |  |
| Loyiha ishi<br>Project   |  |          |  |
| Ijodiy ish (taqdimot)<br>Presentations / seminar   |  |          |  |
| Oraliq nazorat<br>Mid – terms (Examination +Examination prep. Duration)                                      |  |          |  |
| Yakuniy nazorat (nazorat va nazoratga tayyorlanish soati)<br>Final (examination +examination prep. Duration) |  |          |  |
| Jami yuklama<br>Total workload   |  | 120      |  |
| Jami yuklama / 30 (soat)<br>Total workload / 30(h)   |  | 120/30=4 |  |
| Kredit<br>ECTS credit  |  | 4        |  |

|                                      |                                    |
|--------------------------------------|------------------------------------|
| Qo'shimcha eslatmalar<br>Extra Notes | Yo'q\ (bor bolsa yoziladi)<br>None |
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Fan dasturi Mirozo Ulug'bek nomidagi Samarqand davlat Arxitektura-qurilish universitet kengashining 2024 yil \_\_\_-avgustdagi \_\_\_-sonli bayonnomasi bilan ma'qullangan.

**Kafedra mudiri:**

A. T. Quldashev

**Tuzuvchilar:**

U.O. Xudayorov