O‘ZBEKISTON RESPUBLIKASI
OLIY TA’LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

SAMARQAND DAVLAT ARXITEKTURA – QURILISH UNIVERSITETI

“KELISHILGAN”
O‘quv ishlari bo‘yicha
prorektor _____
M.T.Shodmonqulov
Ro‘yxatga olindi: №317/a
«30» avgust 2024 yil

“TASDIQLAYMAN”
Rektor _____
Ch.J.Turkyilmaz
«30» avgust 2024 yil

SHAHAR INFRATUZILMASI TIZIMI GIDRAVLIKASI

FAN DASTURI

Bilim sohasi: 700 000 - Muhandislik, ishlov berish va qurilish sohalari

Ta’lim sohasi: 730 000 - Arxitektura va qurilish

Ta’lim yo‘nalishi: 60730300 - Qurilish muhandisligi (faoliyat turlari bo‘yicha)

60730800 –Yo’l muhandisligi(Sohalar vafaoliyat turlari)

60730400 - Muhandislik kommunikatsiyalari qurulishi va montaji

60730500 - Suv ta'minoti va kanalizatsiya tiizmlarini loyihalashtirish va ekspluatatsiyasi

Samarqand – 2024

Kurs ma'lumotlari
Course Information Form

Modul kodi **Code** KRM 3060	**O'quv yili** 2024-2025	**Semestr** 6	**ECTS – Kreditlar** 6-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)	
Shahar infratuzilmasi tizimi gidravlikasi	6-semestr -120		6-semestr -3	-	-	6-semestr -5

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	**Uchunchi kurs** Third Cycle
Ta'lim yo'nalishlari Course type	60730300 - Qurilish muhandisligi (faoliyat turlari bo'yicha) 60730800 –Yo'l muhandisligi(Sohalar vafaoliyat turlari) 60730400 - Muhandislik kommunikatsiyalari qurulishi va montaji 60730500 - Suv ta'minoti va kanalizatsiya tiizmlarini loyihalashtirish va ekspluatatsiyasi
Kurs toifasi Course Category	Majburiy Core Courses
Dars shakli Mode of Delivery	An'anaviy (Yuzma – yuz muloqot) Face – to - face

Ma'sul kafedra Owner academic unit	Atrof-muhit muhandisligi Environmental engineering
Kursga ma'sul Cours Coordinator	A.X.Jo'rayev
O'qituvchilar Instructor(s)	A.X.Jo'rayev, X.B. Artikboyev
Yordamchilar Asistant(s)	X.B. Artikboyev

Fanni o'qitishdan maqsad Course objectives	Talabalarda suv uzatish tarmoqlarini loyihalash, suv uzatish tarmoqlarini infratuzilmasi tizimi gidravlikasi, tizimlardagi uskuna va jihozlarni to'gri loyihalash va tanlashga doir masalalarni o'rgatish, suv uzatish tarmoqlarining muhandislik tizimlarini qurish masalalari va usullari, montaj ishlari, sozlash masalalari va sinash ishlari xamda ulardan foydalanish bo'yicha bilim, boshlang'ich ko'nikmalarni xosil qilishdan iborat. To teach students about the design of water transmission networks, the hydraulics of the infrastructure system, the correct design and selection of equipment and devices in the systems, the issues and methods of construction of engineering systems of water transmission networks, installation work, adjustment issues and testing work, as well as their use. knowledge consists of the formation of basic skills.
Fanning mazmuni Course content	Nazariy bilimlar, amaliy kunikmalar, suv uzatish tarmoqlarini qurish bo'yicha uslubiy yondoshuv xamda ilmiy dunyoqarashini shakillantirish, suv uzatishva oqova suv tarmoqlarining gidravlik tizimlarini qurish va montaj ishlarining o'ziga xosliklarini bilish, ularga nisbatan shaxsiy munosabatni shakllantirish orqali

	insonning hayotdagi o'rni va ahamiyatini ochib berish. Theoretical knowledge, practical skills, methodological approach to the construction of water transmission networks, as well as the formation of a scientific worldview, to know the peculiarities of the construction and installation of hydraulic systems of water transmission networks, to reveal the role and importance of a person in life by forming a personal attitude towards them.
Tavsiya qilingan yoki talab qilinadigan adabiyotlar ro'yxati Recommended Or Required Reading	**Asosiy adabiyotlar:** 1.QM va Q 2.04.03 – 19 "Oqova suv. Tashqi tarmoqlar va inshootlar" . Toshkent. 2019 yil 2.Jo'rayev O.J. Oqova suvlarni oqizish tarmoqlari, O'quv qo'llanma. Dotsent O.J.Jurayevning umumiy tahriri ostidagi nashrga tayyorlangan . Samarqand: Fan bulog'i, 2023. 156-bet 3.K.A.Yakubov, E.S.Bo'riyev. Oqova suvlarni tozalash. – T.: "Inovatsion rivojlanish nashriyot-matbaa uyi" 2020. 220 4.Garg, S.K., 1977. Water supply engineering. 5.Experimental evaluation of the throughput of the supply channel of pumping stations 2023. Pp. 1-11 6.Wu, Z.Y., 2008. Innovative optimization model for water distribution leakage detection. Watertown, USA: Bentley Systems Inc. **Qo'shimcha adabiyotlar:** 1.Zokirov U.T., Buriyev E.S. "Suv ta'minoti va oqova suvlarni oqizish tarmoqlari asoslari". Toshkent 2021 yil. O'quv qo'llanma. 2.M.A. Somov, L.A. Kvitka «Vodosnabjeniye» uchebnik Moskva INFRA- M 2019. 287 s. 3.L.G.Dergyushev «Nadejnost soorujeniy sistem vodosnabjeniya» uchebnoye posobiye Moskva MGSU 2015. 280 s. **Axborot manbalari:** 1.www.lex.uz – O'zbekiston Respublikasi Qonun hujjatlari ma'lumotlari milliy bazasi; 2.http://www.bologna.yildiz.edu.tr/index.php?r=program/bachelor 3.www.uznature.uz/sites/default/files/imce/
Tavsiya etilgan qo'shimcha dastur komponentlari Recommended Optional Program Components	Yo'q\ (bor bo'lsa yoziladi) None

Kursni o'rganish natijalari

Course learning outcomes

1	Ushbu kursni muvaffaqiyatli tamomlagan talabalar shahar infratuzilmasi tizimi gidravlikasi bo'yicha uslubiy yondoshuv bo'yicha chuqur amaliy va nazariy bilimlarga ega bo'ladilar; Students who successfully complete this course will have in-depth practical and theoretical knowledge of the methodological approach to urban infrastructure system hydraulics;
2	Ilmiy dunyoqarashini shakillantirish; forming a scientific outlook;
3	Suv uzatish tarmoqlarining muhandislik tizimlarini qurish va montaj ishlarining o'ziga xosliklarini bilish; to know the peculiarities of construction and installation of engineering systems of water transmission networks;
4	Theoretical knowledge, practical skills; nazariy bilimlar, amaliy ko'nikmalar;
5	Harakat qonuniyatlarini; Laws of action;
6	Suv resurslarini muhofaza qilish haqidagi qonun va qarorlarni bilishi; knowledge of laws and decisions on water resources protection;

7	O'z fikr-mulohaza va xulosalarini asosli tarzda aniq bayon eta olish malakalariga ega bo'ladilar. They will have the skills to express their opinions and conclusions clearly.

Haftalik mavzular va tegishli tayyorgarlik ishlari

Weekly Subjects and Related Preparation Studies

Hafta Week	**Mavzular** Themes	**Resurslar** Related preparation
1.	Kirish. Ichimlik suvining xususiyatlari suvga bo'lgan ehtiyojni aniqlash.	2 - adabiyot (I-II bob)
2.	Suvni uzatish quvurlarini gidravlik hisobi, suv uzatish tarmoqlarining ishlashi.	1,4,7-adabiyotlar
3.	Suv uzatish tarmoqlari, suv uzatish tarmoqlarining rejalari aniqlash tamoyillari, suv uzatish tarmoqlarida diametrni aniqlash.	1,6,7-adabiyotlar
4.	Nasoslar turlari. Nasos va quvurlarning xarakteristikasi egri chiziqlari, nasos sxemalari, nasoslarning parallel va ketma-ket ulanishi.	1, 5, 7,- adabiyotlar
5.	Ichimlik suvi havzalari (tanklar), suv omborlari turlari, suv omborlari hajmini aniqlash.	7-adabiyot (II bob), 3- adabiyot (I bob)
6.	Ichimlik suvi tarmoqlari gidravlikasi, tarmoq gidravlikasi.	1, 7,-adabiyotlar
7.	Boshi berk tarmoqni gidravlik hisoblash.	7, 9-adabiyotlar
8.	Halqasimon tarmoqni gidravlik hisoblash.	7, 9-adabiyotlar
9.	Oqova suvlari turlari, oqova suvlarning xossalari. Oqova suv kanali gidravlikasi.	1,7,8,-adabiyotlar
10.	Oqova suv oqizish tarmoqlari gidravlik hisoblash.	3,7,8,-adabiyotlar
11.	Kanallarning qiyaliklari va gidravlik chegaralari, hisoblash rejasi, gidravlik o'lchovlar.	5,7,8,-adabiyotlar
12.	Yomg'ir suvi kanali (shahar drenaj tizimlari) gidravlikasi: yomg'ir, oqim, yog'ingarchilik va oqim o'rtasidagi bog'liqlik.	2,7,8 - adabiyotlar
13.	Kanalizatsiyada ishlatiladigan quvur turlari va ularning umumiy xususiyatlari	1,7,8 - adabiyotlar
14.	Kanalizatsiya tizimlari va tasvirlari	7,8,- adabiyotlar
15.	Oqova suv tozalash inshootlari	7,8, – adabiyotlar

Baholash jarayoni

Evaluation System

Mashg'ulot turi Activities	**Soni** Number	**Baholash** Percentage of Grade
Darsga qatnashish Attendance / particition	15	15
Laboratoriya ishi Laboratory		
Amaliy ish (qo'shimcha vazifa) Application		
Kurs ishi Field work		
Maxsus kurs amalyoti (ish joyida) Special course internship (work placement)		
Testlar Quizzes / studio crtics		
Uyga vazifani baholash Homework assignments	5	10
Ijodiy ish (taqdimot) Presentations / jury	5	5
Loyiha ishi Project		
Seminar Seminar / workshop		
Oraliq nazorat Mid -Terms	2	20
Yakuniy nazorat Final	1	50
O'zlashtirish ko'rsatgichi Percentage of in – term studies		**50**
Yakuniy imtihon bahosi		**50**

Percentage of final examination	
Jami 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 (maslahat) Study hours out of class	5	2	35
Maxsus kurs amalyoti (ish joyida) Special course internship (work placement)			
Uyga vazifani baholash Homework assignments	5	2	10
Testlar / Viktorina Quizzes / studio critics			
Loyiha ishi Project			
Ijodiy ish (taqdimot) Presentations / seminar			
Oraliq nazorat Mid – terms (Examination +Examination prep. Duration)	2	10	20
Yakuniy nazorat (nazorat va nazoratga tayyorlanish soati) Final (examination +examination prep.Duration	1	10	10
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 Kengashning 2024 yil 30-avgustdagi 1-sonli bayonnomasi bilan ma'qullangan.

Kafedra mudiri: B.M.Norqulov

Tuzuvchilar: A.X Jo'rayev

X.B.Artikboyev