

Kurs ma'lumotlari
Course Information Form

Modul kodi Code ELM2150	O'quv yili 2025-2026	Semestr 3	ECTS – Kreditlar 3-semestr -4			
Modul turi Tanlov fan	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)		
C dasturlash tiliga kirish va muhandislikdagi ilovalar	3-semestr -120	3-semestr -3			2-semestr -5	

Dastlabki shart Prerequisite	Yo'q None
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Semestr Semestr	Kuzgi Fall
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Kurs tili Course language	O'zbek, Ingliz, Rus Uzbek, English, Russian
O'quv kursi Level of Course	Ikkinchi kurs Second Cycle
Ta'lim yo'nalishlari Course type	60710500 – Elektr muhandisligi
Kurs toifasi Course Category	Tanlov 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	M. T. Shodmonqulov
O'qituvchilar Instructor(s)	K.S. Islamov, B.E. Elmurodov
Yordamchilar Asistant(s)	J.K.Haydarov

Fanni o'qitishdan maqsad Course objectives	Talabalarga algoritmlash asoslari va dasturlash tillari bo'yicha bilim va ko'nikmalarni shakllantirishdan iborat.
Fanning mazmuni Course content	<p>Kompyuter dasturlash texnikasi va dasturlash tillari, algoritm, C++ dasturlash tili bilan tanishish, C++ dasturlash tili asoslari, chiziqli jarayonlar, tarmoqlanuvchi jarayonlar, takrorlanuvchi jarayonlar, funksiyalar, massivlar, ko'rsatkichlar, tuzilmalar, kiritish - chiqarish operatorlari, belgilar va satrlar, fayllarni qayta ishlash, Grafika.</p> <p>Introduction to computer programming techniques and programming languages, Algorithms and flow diagrams, Introduction to C++ programming, Basics of C++, Selection structures, Loops, Functions, Arrays, Pointers, Structures, Input - Output operations, Characters and strings, File processing, Advanced topics</p>
Tavsiya qilingan yoki talab qilinadigan adabiyotlar ro'yxati	1. Elmurodov B.E. Dasturlash. Darslik. "Grand kondor print" Toshkent-2025

Recommended Or Required Reading	<p>2. Richard L. Halterman. Fundamentals of C++ Programming. Southern Adventist University, 2016</p> <p>3. Стенли Липпман. Язык программирование C++. Базовой курс. Вильямс - М.: 2014.</p> <p>4. A.R. Azamatov, C++ tili asoslari, darslik, 2021 yil.</p> <p>5. A.M. Po'latov. Algoritmilar va C++ tilida dasturlash asoslari. O'quv qo'llanma. Toshkent "Universitet" 2017.</p>
Qo'shimcha adabiyotlar.	<p>1. Eshtemirov S. Nazarov F. Algoritmilar va dasturlash asoslari. O'quv qo'llanma. Samarqand 2019. -208 b.</p> <p>2. U.A. Nazarov, Informatika faniga kirish, darslik – 2023</p> <p>3. M.T. Shodmonqulov Informatika faniga kirish, o'quv qo'llanma (amaliy mashg'ulotlarni bajarish uchun), "Ilm Ziyozakovat" 2023 yil.</p> <p>4. https://uzbekdevs.uz/darsliklar/cpp</p>
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 mexatronika muhandisligi uchun dasturlar tuzishni o'rganadilar; Students who successfully complete this course will learn to build programs on mechanical engineering issues;
2	Zamonaviy dasturlash tillarini va uning texnik xususiyatlarini aniqlash; Define basic programming languages and its specifications.
3	C++ dasturlash tilining asosiy buyruqlari, funktsiyalari, massiv tuzilmalari va kiritish-chiqarish operatorlarini aniqlang va foydalaning. Define and use basic commands, functions, array structures and input-output operations of C programming language.
4	C++ dasturlash tili orqali muhandislik muammosi uchun dasturiy ta'minot ishlab chiqing; Develop a software for an engineering problem via C language.
5	C++ dasturlash tili asosida ishlab chiqilgan dasturiy ta'minot infratuzilmasini tavsiflang. Describe the infrastructure of a software which are developed based on the C language.

Haftalik mavzular va tegishli tayyorgarlik ishlari

Weekly Subjects and Related Preparation Studies

Hafta Week	Mavzular Themes	Resurslar Related preparation
1.	Kirish. Zamonaviy dasturlash tillari asoslari. [https://cs.msu.ru/sites/cmc/files/docs/rpd_osnovy_programmirovaniya.pdf]	1, 2-darslik (I bob, 1.1 §)
2.	Algoritmilar haqida umumiy tushunchalar. Algoritm turlari va xossalari.	6, 10-darslik (II bob)
3.	C++ dasturlash tilining strukturasi. Turlar, o'zgaruvchilar va o'zgarmlar. Operatorlar. [https://cs.msu.ru/sites/cmc/files/docs/rpd_osnovy_programmirovaniya.pdf]	5, 7-darslik (I bob)
4.	C++ dasturlash tilida dastruni kompilyatsiya qilish. Modulli dasturlash. [https://cs.msu.ru/sites/cmc/files/docs/rpd_osnovy_programmirovaniya.pdf]	7, 9 – darsliklar (II-III bob)
5.	C++ dasturlash tilida arifmetik, mantiqiy va munosabat ifodalari. Standart funktsiyalar.	1, 7 – darsliklar (II-III bob)
6.	C++ dasturlash tilida chiziqli tarkibli jarayonlarni dasturlash.	1, 2 – darsliklar (III-IV bob)
7.	C++ dasturlash tilida tarmoqlanuvchi tarkibli jarayonlarni dasturlash.	1, 3 – darsliklar (III-IV bob)
8.	C++ dasturlash tilida takrorlanuvchi tarkibli jarayonlar va parametr bo'yicha dasturlash. Oraliq nazorat	1, 4 – darsliklar (III-IV bob)
9.	For(sikl) operatori. Ichma-ich joylashgan sikllarni tashkil qilish.	1, 5 – darsliklar (III-IV bob)

10.	C++ dasturlash tilida bir va ikki o'lehovli massivlar. Qatorlar [https://cs.msu.ru/sites/emc/files/docs/rpd_osnovy_programmirovaniya.pdf].	2,7 – darsliklar (I-IV bob)
11.	Sikl qadamlarini tashlab o'tish va sikllarni muddatidan oldin tugatish. Break va Continue operatori va ularning umumiy ko'rinishi	2, 10 – darsliklar (II-IV bob)
12.	C++ dasturlash tilida funksiyalar va Protseduralar.	1, 6 – darsliklar (I-III bob)
13.	Qism dasturlar, Funksiya tanasini faollashtirish, Global va lokal o'zgaruvchilar, Rekursiv funksiyalarga oid dasturlar.	2,7 – darsliklar (II-IV bob)
14.	C++ dasturlash tilida grafik rejim bilan ishlash.	1, 2-darslik (II bob)
15.	C++ dasturlash tilida fayllar bilan ishlash. Yakunlovchi dars. [https://cs.msu.ru/sites/emc/files/docs/rpd_osnovy_programmirovaniya.pdf].	1-darslik (VI bob)

Baholash jarayoni Evaluation System		
Mashg'ulot turi Activities	Soni Number	Baholash Percentage of Grade
Darsga qatnashish Attendance / participation	22	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 Percentage of final examination		50
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 Study hours out of class	5	1	5
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	40	40
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
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Oliy ta'lim, fan va innovatsiyalar vazirligi tomonidan 2025-yil uchun tasdiqlangan xalqaro e'tirof etilgan tashkilotlarning reytingida top 300 talikka kiruvchi Lomonosov nomidagi Moskva Davlat Universiteti (The 108) va (QS-93) ning "Основы программирования" fan dasturi tahlil qilinib ushbu asosda fan dastur ishlab chiqildi. "C dasturlash tiliga kirish va muhandislikdagi ilovalar" fanining dasturi tayyorlanib 5 ta mavzusi yangilandi.

[https://cs.msu.ru/sites/cmc/files/docs/rpd_osnovy_programmirovaniya.pdf]

Fan dasturi Mirozo Ulug'bek nomidagi Samarqand davlat Arxitektura-qurilish universitet kengashining 2025 yil 29 - avgustdagi 1 - sonli bayonnomasi bilan ma'qullangan.

Kafedra mudiri:



Shaimov K.M.

Tuzuvchilar:



Shodmonqulov M.

Haydarov J.K.