UNESCO-UNITWIN
OCW/OER INITIATIVE
HANDONG GLOBAL UNIVERSITY

[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

Mechanisms and machines, history and methods of their development, kinematic pairs and their classifications, kinematic chains and their types, high and low kinematic pairs, and space moving mechanisms, their classification, transfer function, linear and angular velocity, accelerations, trajectories of the mechanisms and their points, schemes of mechanisms, analytical and experimental methods, speed and acceleration diagrams dynamic parameters of the mechanisms and their characteristics, dynamics of machines, the moment of forces and the moment of inertia, kinetic energy of the dynamic model and equations in the differential form, solving the movement equations, nonlinear motion of machines, determination of kinematic pair reactions using power plans, finding normal and reaction forces, guiding power calculations, Jukovskiy's theorem used the equilibrium force, equilibrium mechanisms, static and dynamic equilibrium of rotary mass, frictional effects, their kinematic pairs effects, internal

2. Course Goals and Objectives (Approximately 100 words)

T- development of scientific and theoretical foundations of modern machines and mechanisms;
- Designing high-tech modern machines, robots and automatic complexes;
- Improving product quality, increasing productivity;
- Ensuring the working modes required for the machines, rising up the scale and increasing the efficiency.
- To teach students the techniques of mechanical, kinematic and dynamic calculations of mechanics and machines;
- teaching students the basics of mechanical engineering and machine design;
- teaching students the principles and operation of mechanisms and machines;
-teaching students how to maintain and stabilize the machines, solve the problem of movement equations;

3. Textbook (Title, Author, Publisher, Year of Publication, etc.)

1. Karimov R.I., Baratov N.B., Abduvaliyev U.A.“ Mexanizm va mashinalar nazariyasi” fanidan richagli mexanizmlarning strukturaviy va kinematik mushohadasi mavzusi bo’yicha xisob – grafika ishlarini bajarish uchun uslubiy ko’rsatma. – T,ToshDTU, 2010.
2. Karimov R.I, Saliyev A. Mexanizm va mashinalar nazariyasi fanidan o’quv qo’llanma. T.: ToshDTU, 2006.
3. Djuraev A va b. Mexanizm va mashinalar nazariyasi. – T.: Ukituvchi, 2004.
4. Mashina va mexanimlar nazariyasi fanidan uslubiy majmua. AndMI 2021y. Daliyev Sh, Sobirov X.
4 Svidetelg’stvo №DGU 00612 (RUz) ob ofitsialg’nov registratsii programm dlya EVM

4. Reference

1. Izzatov Z.X. Mashina va mexanizmlar nazariyasidan kursaviy loyihalash. T.Ukituvchi, 1988.
2. Qodirov R.X. Mashina va mexanizmlar nazariyasidan kursaviy loyihalash. T.:Ukituvchi, 1990.
3. Artobolevskiy I.I. Sbornik zadach po teorii mexanizmov i mashin». M.:Nauka, 1974.
4. Zaynutdinov N.Z., Karimov R.I., Turapov A.T., SHoumarov R.A., Metodicheskie ukazaniya k vqpolneniyu laboratornqx rabot po kursu «teoriya mexanizmov i mashin».T.2006
5. www.ziyonet.uz www.sapr.ru
6. Karimov R.I., Turaev F.T. Kinematicheskiy analiz ploskix mexanizmov s ispolg’zovaniem EVM. Uchebn. posob. T.: TashGTU, 2004.
7. Artobolevskiy I.I. Teoriya mexanizmov. M.:Nauka, 1988.
8. Frolov K.V va b. Mexanizm va mashinalar nazariyasi. T.:Uqituvchi, 1990.

5. Course Requirements and Grades

Course prerequisites:
Students should have the knowledge of "Higher mathematics", "Resistance of materials", " Theoretical mechanics", and "Drawing geometry".
Grading System:
Homework 15%
Design Project 15%
Mid-term Exams 35%
Final Comprehensive Examination 35%
Total 100%
5=86-100%
4=71-85%

6. Course Calendar

Week	Main Content
1	GOALS AND OBJECTIVES OF THE SCIENCE OF MACHINE AND MECHA
2	KINEMATIC COUPLES AND THEIR CLASSIFICATION.
3	CHEBISHEV FORMULA. PLANE AND SPACE MECHANISMS.
4	TEETH WHEEL MECHANISMS.
5	CORRECTION OF TEETH WHEELS. METHODS OF MAKING TEETH WHE
6	GEOMETRIC PARAMETERS OF TEETH.
7	SHALL MECHANISMS
8	CONTINUOUS MECHANISMS AND THEIR KINEMATICS
9	DETERMINATION OF FREQUENCY MATERIALS OF CONTINUOUS MEC
10	DYNAMICS OF BREAKING MECHANISMS
11	FORCES AFFECTING THE MECHANISMS
12	DETERMINATION OF INERTION FORCES IN MECHANISMS
13	JUKOVSKY DEPENDANCE
14	MUSHROOM MECHANISMS AND THEIR TYPES