UNESCO-UNITWIN
OCW/OER INITIATIVE
HANDONG GLOBAL UNIVERSITY

[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

Consider the hydraulic apparatus of the equipment and projects. Hydraulic and pneumatic drives are an integral part of modern machines and largely determine its performance. The most crucial stage in the design of hydropneumatic systems of machines is the development of schematic diagrams. Hydraulic and pneumatic schemes, as a rule, are drawn separately, they represent a graphic image of a set of hydraulic elements and devices with the help of which the required technical indicators are achieved in the most rational way. The following are important in the structure of the science Liquids and gases: Ideal and adhesive liquids; in equilibrium, forces acting in fluid fluids; piezometric strips; Liquidity potential, D. Bernoulli and Lagrange-Koshi integral; laminar and turbulent fluid movement, relative kinetic energy of flow; hydraulic radius flow, average velocity, dynamic velocity, piezometric (hydrostatic), velocity

2. Course Goals and Objectives (Approximately 100 words)

The purpose and task of the subject - you need to know the students fluid is so mobile that it flows under the action of gravity. In the normal state, the fluid has a very small tear resistance and a large resistance to all-round compression. At the same time, the liquid has a significant resistance to the relative motion of the adjacent layers.
The aim of the course is to introduce hydraulic sciences to students studying mechanics, to teach them to use the laws and formulas based on experimental results and theoretical knowledge in technical and industrial facilities and hydraulic structures.
The object that is explored in this science is liquid and gas, which is easily deformable. This, in turn, requires special forms of mass, impulse, energy conservation laws, and the study of special methods for solving them.
Consider the hydraulic apparatus of the equipment and projects. Hydraulic and pneumatic

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

1. Ju Ch lsO υ.∫ . cf Htc. ¿cf HtcO ∂ dzf ÇO, cf HtcO ∂ dzf ujfŋ Çf ¿ cf3Ch cfdz cf cf HtcO ∂ dzf ujfŋ Çf ¿ tftcf ∂ tsH r . – ∫ .: RLH. «∫ Ch cfdzsfŋstdsj dz∫¿», 1982c., fŋstc. 350-355.
2. υ cf dz∫ zfŋ ϕ.ϕ. ¿cf HtcO ∂ dzf Çf cf cf HtcO ∂ dzf ujfŋ Çf ¿ cf3Ch cfdz, - MOtc Çtso. RLH. MOtc Çtso fŋ Çtsdts lzdz∫ ∂ ¿ tcfŋ flsj lsO, 1977c., fŋstc. 371-378.
3. E.A. Tursunova, A.A. Mukolyans “Suyuqlik va gaz mexanikasi” O’quv qullanma.ToshDTU.; 2014

4. Reference

1. H O ∂ cf dz R .Λ . H Cw tsdzso ł .J . ∫ fŋdzso r cf HtcO ∂ dzf Çf cf cf Htdsf tcf ∂ tsH, - ∫ .: «J r fŋh Ow h Çtsdz O», 1978c., fŋstc. 76-78.
2. A.A. Karimov, A.A. Shokirov, A.A. Mukolyans “Gidrogazodinamika, naoslar, ventilyatorlar va kompressorlar” O’quv metodik qullanma. ToshDTU.; 2014
3. U.ϕ. ϕ dz∫ ¿ ∂, ∫ lz Çtsdz w dz, ϕ.ϕ. ¿ Otc∫ dz ∂ tsO cf Htc. ¿cf Htdsc O tsH cf dz O dz f Çf O dz w lsf cf cO O ∂ tftdsujfŋj ł Çfŋf dz O lsO ucf cf dz w lsjcO tsΠtcO dz∫ dz h «υujBdz-dzjlstsH cf ujfŋ Çts tftsfŋsB cf ¿» υtsh ¿υυ.; 2012.

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	Suyuqliklarning fizik xossalari va uning turlari
2	Gidrostatika. Suyuqliklarga ta'sir etuvchi kuchlar.
3	Quvur devorlarga suyuqlikning bosim kuchi.
4	Suyuqlik xarakati va oqim tenglamasi.
5	Bernulli tenglamasi va uni qo`llanilishi
6	Suyuqliklarning harakat tenglamalari
7	Gidravlik qarshiliklar va ularning turlari
8	Quvurlarni gidravlik xisoblari va parametrlari
9	Suyuqliklarning teshik va naychalardan oqishining xisobi
10	Gidropnevmoyuritmalarda energiya almashinishi.
11	Xajmiy nasoslar va qo`llanilish soxalari
12	Xajmiy gidroyuritmalarning turlari
13	Kuch gidrosilindlari va qo`llanilishi
14	Gidroyuritmalar va ularning turlari