

14, March 1. **Install applications on Your computer:** Raswin2.6, ISIS Draw4, ChemScape, FireFox x3.5.5, Mage <http://aris.gusc.lv/index.html>; For Windows in adress: <http://aris.gusc.lv/InstallChemistryPC.html> and MacOSX MacBook Virtual Box: <http://aris.gusc.lv/InstallChemistryMac.html> runing Windows 10 **Install applications** Raswin2.6, ISIS Draw4, ChemScape, FireFox3.5.5, Mage <http://aris.gusc.lv/Inst170712.pdf> Computer preparation for molecules experimental research. Instalation. **Medical BioChemistry** data base **htdocs** building and structure. Computer and FireFox3.5.5 configuration for molecular coordinates experimental research.

Nr. Week Lectures (March 14th-21st), 15:00-16:30 ;

2.	14. March	http://aris.gusc.lv/ChemFiles/Aquaporins/WCPsAQPsIUBMBLife09/AQP1-11.pdf ; Aquaporins cell membranes crossing H₂O , O₂ , NO transport proteins. The osmosis against osmolar concentration gradient: AquaPorin1-0.htm ; in human body.task: /Research/Aquaporine0.pdf ; /Research/Aquaporine1.pdf
3.	21. March	Carbonic Anhydrase CA ENZYME http://aris.gusc.lv/ChemFiles/CA/CAnhydraseII.htm physiological pH=7.36 determinant in blood.: http://aris.gusc.lv/06Daugavpils/Research/CA.pdf
4.	21. March	O₂ , H ⁺ , HCO ₃ ⁻ shuttles Hemoglobin, Myoglobin molecules. Triplet ••O≡:::≡O•• oxygen. http://aris.gusc.lv/06Daugavpils/Research/HromoProteinsA.pdf ; http://aris.gusc.lv/ChemFiles/hemoglobEricMarzUMas/INDEX.htm oxygen O₂ and carbon dioxide CO₂ exchange ENZYMES in human organism Hemoglobin, CA:
Practical class topic at room Nr A406 12 ⁰⁰ -14 ¹⁵ ,		
1.	28. March	Tyr357-Heme coordinated iron(III) CATALASE HOMEOSTASIS activity E _a in human organism geometric factor A=0,13: http://aris.gusc.lv/06Daugavpils/Research/CATALASE.pdf http://aris.gusc.lv/ChemFiles/catalaseKenyon/cat1.htm
2.	4 April	Cyclo oxygenase: /Research/COX.pdf : Singlet ••O-:-O•• oxygen Eicosatetraenoic acid http://aris.gusc.lv/06Daugavpils/Research/COXLab14.pdf ; source of: prostaglandins PGs , prostacyclins PGI₂ , thromboxanes TXs and leukotrienes LTs inhibitors: aspirin, warfarin, tylenol, paracetamol, ibuprofen: http://aris.gusc.lv/ChemFiles/CycloOxygenase/cycox.html
3.	11 April	/Research/NADalcoholDeHydr.pdf : ENZYME alcohol dehydrogenase ADH . B3 vitamin tunneling hydride ion H ⁻ dissociates proton H ⁺ : /ChemFiles/AlhoDeHydrogenase/NadDehydrogenase.htm
4.	25 April	/Research/PhosphLipidBilayerMembranB.doc Cell membrane structure of human physiology: http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/Membrane/membrane/Membrane.html Cholesterol 0,9÷1/1 phospholipid ratio in human erythrocytes: /Research/LipdBiLayerMembran.doc http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/Cholest5ene3-20diol/Cholesterol5Membran.html START-START1-13: http://aris.gusc.lv/06Daugavpils/Research/Start.doc : http://aris.gusc.lv/ChemFiles/START/START.htm
5.	9 May	http://aris.gusc.lv/06Daugavpils/Research/HSA.doc Human serum albumin HSA HOMEOSTASIS physiology research with Medical Chemistry. Load in HSA water insoluble 7 fatty acids, Hem, bilirubin, aspirin, warfarin, ibuprofen, indometacin: http://aris.gusc.lv/ChemFiles/Albumin/cycox.html
6.	16 May	http://aris.gusc.lv/06Daugavpils/Research/AndrogenReceptor.doc androgen nuclear receptor: http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/AndrogenReceptor/Androgen1.htm http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/MineraloCorticoidReceptor/NR-A-G-P-R2AA2.htm Mineral corticoid receptors: http://aris.gusc.lv/06Daugavpils/Research/MinerCorticoidAldosteron.pdf
7.	23 May	Genom HOMEOSTASIS instruments DNA methyl transferases: DNMT1HhaI; DNMT3 GC ≡ CG http://aris.gusc.lv/ChemFiles/hhaiDNAmethylCtransferKeny/C5MethTransferGoodSell11/MethylTrans11.doc Methylation Protein DNMT3 experimental research task: /Research/DNAmethylTransferase.doc ; Zn²⁺ ions DNA Medical Chemistry zinc finger motifs on DNA strands: /hhaiDNAmethylCtransferKeny/methmast.htm
8.	30 May	http://aris.gusc.lv/ChemFiles/Aquaporins/AquaPorin1.htm Aquaporins cell membranes crossing H₂O , O₂ , NO transport proteins. The osmosis against osmolar concentration gradient in human body.task: /Research/Aquaporine0.pdf ; /Research/Aquaporine1.pdf

RSU dep. Human Physiology and Biochemistry - Assistant Professor, Āris Kaksis.

Literature : <http://aris.gusc.lv/2022MFArzRudensBkurss.pdf>; 2019 2022. gada 36 publications.

1. Ā.Kaksis RSU 2020: http://aris.gusc.lv/BioThermodynamics/Data_bookSpring2015CTL.pdf
2. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/ColigatConcOsmosOxRedL.pdf>
3. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/ColigativePropertiesL.pdf>
4. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/OxRedBiologicalW.doc>
5. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/ElektrodsM.doc>
6. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/MembraneElektrodsLat.pdf>
7. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/ThermEquilibrKinEnzL.pdf>
8. Ā.Kaksis RSU 2020: <http://aris.gusc.lv/BioThermodynamics/BioThermodynamics.pdf>
9. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/BioThermodynamicAttractor7-36L.pdf>
10. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/KineticsLat.pdf>
11. Ā.Kaksis RSU 2020: <http://aris.gusc.lv/BioThermodynamics/74LidzsvarsDaba.pdf>
12. Ā.Kaksis RSU 2020: <http://aris.gusc.lv/BioThermodynamics/H2OBufersCO2L.pdf>
13. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/H2ODissociationLat.pdf>
14. Ā.Kaksis RSU 2020: <http://aris.gusc.lv/BioThermodynamics/BufferSolutionLat202015.pdf>
15. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/AtomBondMolForceL.pdf>
16. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/34AtomaUzbuveS.pdf>
17. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/CrystalloGraphyL.pdf>
18. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/4KimiskaSaite.pdf>
19. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/4Kompleksi.pdf>
20. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/4HydrogenBondL.pdf>
21. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/38Olalt10311.pdf>
22. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/32ProteinsLatC.pdf>
23. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/CarbohydratesProteinsL.pdf>
24. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/Lipidi.pdf>
25. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/06Daugavpils/Research/LipdBiLayerMembLat.pdf>
26. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/LipCholestFatSACL.pdf>
27. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/35Ogl45Hidr150211.pdf>
28. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/12CarbohydratesDisacchari.pdf>
29. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/38Olalt10311.pdf>
30. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/32ProteinsLatC.pdf>
31. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/ChemFiles/FatAcLiverProt11/1/FABP8myp2PMP2.pdf>
32. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/06Daugavpils/Research/HSAsLat.pdf>
33. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/DNAproteinRNALS.pdf>
34. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/ImmunoGlobulASmedL.pdf>
35. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/NutritionBioChem/39NuklSk310311.pdf>
36. Ā.Kaksis RSU 2019: <http://aris.gusc.lv/BioThermodynamics/FABPlipocalinsS.pdf>