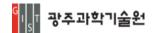


대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: CH2101

Classification	GIST College	Course No.	CH2101-01	Hrs:E:Credits	3/0/3	Instructor	Kim, Tae-Young	Lecture Language	English		
Course	Korea	분석화학									
Title	English	English Analytical Chemistry									
	The course aim:	s at providing	a solid under	standing of the	underlyi	ng principle	s of quanti	tative analysis			
Course	employed in chemistry and other disciplines in science. It covers the fundamentals of chemical measureme										
Outline		including experimental error and statistics, systematic treatment of equilibrium, acid-base titration, and the basics and applications of electrochemistry.									
Prerequisite	OR GS1203 (고			SS1204 (고급일년	반화학 및	연습 II), AN	ID GS1201	(일반화학 및 연	슬 I),		
	AND GS1202 (일반화학 및 연습	· II),								
Textbook &											
References											
Etcetera											
			Weekl	y Course Sched	ule			1			
Week			Desc	cription				*Remarl	ks		
1st	Introduction &	Chemical Mea	surements (C	[h 1)							
2nd	Tools of the Tra	ade (Ch 2) & E	kperimental E	Frror (Ch 3)							
3rd	Statistics (Ch 4)										
4th	Statistics (Ch 27	7-1) & Quality	Assurance &	Calibration Me	thods (Cl	า 5)					
5th	Chemical Equili	brium (Ch 6) 8	& Activity & th	ne Systematic T	reatment	of Equilibri	um (Ch 7)				
6th	Monoprotic Ac	id-Base Equilib	ria (Ch 8)								
7th	Polyprotic Acid-	Polyprotic Acid-Base Equilibria (Ch 9)									
8th	Mid-term exam	ı (Ch 1-9)									
9th	Acid-Base Titrat	tions (Ch 10)									
10th	EDTA Titrations	(Ch 11)									
11th	Fundamentals o	of Electrochem	istry (Ch 13)								
12th	Electrodes & Po	tentiometry (0	Th 14)								
13th	Redox Titration	s (Ch 15)									
14th	Electoranalytica	al Techniques (Ch 16.1 - 3)								
15th	Electoranalytica	al Techniques (Ch 16.4 - 6)								
16th	Mid-term exam	(Ch 10-16)									

*If there will be experiments, mark it in the "Remarks" section.

Instructor (seal)
Lecture Language



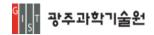
대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: CH2102

Classification	GIST College	Course No.	CH2102-01	Hrs:E:Credits	3/0/3	Instructor	Pang, Yoonsoo	Lecture Language English
Course	Korea	물리화학A						
Title	English	Physical Che	mistry A					
Course Outline	This course will cover quantum mechanics in relation to atomic and molecular electronic structures and spectroscopy. The course objectives include fundamental understanding of structure and dynamics of chemica systems, and applications of quantum mechanics to rotational, vibrational, and electronic spectroscopy of molecules. This course will cover quantum mechanics in relation to atomic and molecular electronic structures and spectroscopy. The course objectives include fundamental understanding of structure and dynamics of chemical systems, and applications of quantum mechanics to rotational, vibrational, and electronic spectroscopy of molecules. This course will cover quantum mechanics in relation to atomic and molecular electronic structures and spectroscopy. The course objectives include fundamental understanding of structure and dynamics of chemical systems, and applications of quantum mechanics to rotational, vibrational, and electronic spectroscopy of molecules.							
Prerequisite	OR GS1203 (고 AND GS1201 (SS1204 (고급일	반화학 및	연습 II), AN	ID GS1202	(일반화학 및 연습 Ⅱ),
Textbook & References								
Etcetera								
			Week	ly Course Sched	dule			
Week			Des	cription				*Remarks
1st	The dawn of th	ne quantum th	eory					Ch. 1
2nd	The classical wa	ave equation						Ch. 2
3rd	The Schr ding	er equation ar	nd a particle i	n a box				Ch. 3
4th	The postulates	and principles	of quantum	mechanics				Ch. 4
5th	The harmonic o	oscillator and t	he rigid rotor					Ch. 5
6th	Hydrogen atom	1						Ch. 6
7th	Approximation	method						Ch. 7
8th	Mid-term							
9th	Multielectron a	itoms						Ch. 8
10th	The chemical b	ond: diatomic	molecules					Ch. 9
11th	The chemical b	ond: diatomic	molecules (c	ontinued)				
12th	Bonding in poly	yatomic molec	ules					Ch. 10
13th	Molecular spec	troscopy						Ch. 13
14th	Molecular spec	troscopy (cont	inued)					
15th	Laser spectrosc	opy and photo	ochemistry					CH. 15
16th	Review & Final							

*If there will be experiments, mark it in the "Remarks" section.

Instructor

(seal)

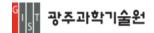


대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: CH2103

Classification	GIST College	Course No.	CH2103-01	Hrs:E:Credits	3/0/3	Instructor	Li, Jiaojie	Lecture Language	English		
Course	Korea	유기화학 I									
Title	English	English Organic Chemistry I									
	This course is the first semester in a two-semester introductory Organic Chemistry course. In Organic										
Course		Chemistry I, a brief introduction to the structure, reactivity, and properties of organic compounds is presented									
Outline		using modern views of chemical bonding. These fundamental concepts are applied to topics ranging from ynthetic chemistry to complex functional structures as well.									
	synthetic chemi	istry to comple	x functional s	structures as w	ell.						
Prerequisite	AND GS1202 (일반화학 및 연습	計), OR GS1	1204 (고급일반회	하학 및 연	습 ॥),					
Textbook											
& References											
Etcetera											
Licetora											
			Weekl	y Course Sched	ule						
Week			Desc	cription				*Remark	ĸs		
1st	Chapter 1. Stru	cture and Bon	ding								
2nd	Chapter 2. Pola	ır Covalent Bor	nds: Acids an	d Bases							
3rd	Chapter 3. Alka	nes and Their	Stereochemis	stry							
4th	Chapter 4. Cycl	oalkanes and ⁻	Their Stereocl	hemistry							
5th	Chapter 5. An 0	Overview of O	ganic Reactio	ons							
6th	Chapter 6. Alke	nes: Structure									
7th	Chapter 7. Alke	nes: Reactivity	, Reactions a	nd Synthesis							
8th	Midterm Exam										
9th	Chapter 8. Alky	nes: An Introd	uction to Org	ganic Synthesis							
10th	Chapter 9. Ster	eochemistry									
11th	Chapter 10. Or	ganohalides									
12th	Chapter 11. Rea	actions of Alky	l Halides								
13th	Chapter 12. Str	ucture Determ	ination: Mass	s Spectrometry	and Infra	ared Spectro	scopy				
14th	Chapter 13. Str	ucture Determ	ination: Nucl	ear Magnetic R	esonanc	e Spectrosco	ору				
15th	Chapter 14. Co	njugated Com	pounds and l	Ultraviolet Spec	troscopy						
16th	Final Exam										

*If there will be experiments, mark it in the "Remarks" section.

Instructor (seal)
Lecture Language



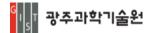
대학분류: GIST대학 년도: 2019 학기: 2학기 교과목번호: CH3106

								1			
Classification	GIST College	Course No.	CH3106-01	Hrs:E:Credits	3/0/3	Instructor	Park,Chin Ju	Lecture Language	English		
Course	Korea	생화학									
Title	English	Biochemistry	1								
	The course intro	The course introduces chemical and physical properties of the building blocks of life. It contains the review of									
Course Outline	the essential topics such as properties of aqueous solution and thermodynamic principles, and the systematic study of amino acids, proteins, nucleic acids, carbohydrates and lipids. The structures and functions of the biological molecules will be extensively discussed and basic bioinformatics will be introduced.										
Outline											
	biological mole	cules will be e	xtensively disc	cussed and bas	ic bioinfo	rmatics will	be introdu	ced.			
Prerequisite	OR GS2201 (유	기화학 I),									
Textbook	Biochemistry by	/ Garrett & Gri	sham, 5th ed	lition (Brooks/C	ole, 2013	3) Biochemi	stry by Voe	t & Voet, 4th ed	dition		
& References	(Wiley & Sons,										
References	Biochemistry by	/ Berg, Tymocz	ːko & Stryer, 7	7th edition (W.	H.Freema	an, 2011)					
Etcetera											
			Weekl	ly Course Sched	lule						
Week			Desc	cription				*Remark	ks		
1st	Introduction, Th	he fact of life									
2nd	Water: The med	dium of life, Th	nermodynam	ics of biologica	l system l						
3rd	Thermodynami	cs of biologica	l system II, Pr	otein purificati	on techni	ques					
4th	Proteins: their p	orimary and se	condary struc	tures							
5th	Proteins: their t	ertiary and qu	aternary struc	ctures							
6th	Carbohydrates	and Glycocon	ugates								
7th	Lipids										
8th	Function of lipi	ds and current	topics								
9th	Midterm										
10th	Nucleotides and	d nucleic acids									
11th	Nucleic acid str	uctures and re	combinant D	NA technologie	es						
12th	Enzyme kinetics	s and Enzyme	specificity								
13th	Mechanisms of	enzyme action	n								
14th	Enzyme regulat	tions									
15th	Current topics i	n biochemistr	y & Review								
	Current topics in biochemistry & Review										
16th	Final										

*If there will be experiments, mark it in the "Remarks" section.

Instructor (seal)

Lecture Language



대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: CH3107

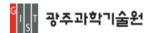
Classification	GIST College	Course No.	CH3107-01	Hrs:E:Credits	3/0/3	Instructor	Junhyeok Seo	Lecture Language	English
Course	Korea	무기화학	•						
Title	English	English Inorganic Chemistry							
	This course will	cover fundam	nental principl	es in inorganic	chemistry	y. Lecture to	opics have b	peen chosen to	teach
Course Outline	major concepts	and theories	regarding mo	lecular structu	res, chem	ical bonding	g, solid stat	e in coordinatio	n,
	organometallic,	and bioinorg	anic chemistr	у.					
Prerequisite									
Textbook									
References									
Etcetera									
			Weekl	y Course Sched	lule				
Week			Desc	cription				*Remark	เร
1st	Ch 1. Introducti	on to Inorgan	ic Chemistry,	Ch 2. Atomic	Structure				
2nd	Ch 3. Simple Bo	nding Theory							
3rd	Ch 4. Symmetry	and Group T	heory						
4th	Ch 4. Symmetry	and Group T	heory						
5th	Ch 5. Molecular	r Orbital							
6th	Ch 6. Acid-Base	and Donor-A	cceptor Cher	nistry					
7th	Ch 7. The Crysta	alline Solid Sta	ate						
8th	Mid-term exam								
9th	Ch 9. Coordinat	tion Chemistry	/ I: Structures	and Isomers					
10th	Ch 10. Coordina	ation Chemist	ry II: Bonding						
11th	Ch 10. Coordina	ation Chemist	ry II: Bonding						
12th	Ch 11. Coordina	ation Chemist	ry III: Electron	ic Spectra					
13th	Ch 12. Coordina	ation Chemist	ry IV: Reactio	ns and Mechar	nisms				
14th	Ch 13. Organor	metallic Chem	istry						
15th	Ch 14. Organor	metallic Reacti	ions and Cata	lysis					
16th	Final exam								

*If there will be experiments, mark it in the "Remarks" section.

Instructor

(seal)

Lecture Language



대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: CH4219

Classification	GIST College	Course No.	CH4219-01	Hrs:E:Credits	3/0/3	Instructor Kim, Jung Wook	Lecture Language English
Course	Korea	생화학 Ⅱ					
Title	English	Biochemistry	II				
Course Outline Prerequisite	and breakdown biosynthesis, br biosynthesis of protein folding	n of biological reakdown and amino acids, 5 and signal tra	molecules. The storage of substitution of substitution of states of the substitution will be substituted in the substitution of the substitution o	ne topics includ ugar, 3) biosyntl s of nucleic acio Il be also discus:	e 1) the nesis and ds, 6) the sed. This	energy focusing on the basic concept of metal d breakdown of lipids a e integration of metabo course will provide a c ogy, molecular biology	poolism, 2) and steroids, 4) plism. DNA replication, comprehensive view
Textbook & References	Garett & Grisha	am Biochemist	ry, 5th editio	n			
Etcetera							
			Week	y Course Sched	ule		
Week			Des	cription			*Remarks
1st	Introduction						
2nd	DNA metabolis	m (Ch 28)					
3rd	Transcription ar	nd the regulati	on of gene e	xpression (Ch 2	9)		
4th	Protein Life cycl	le: synthesis, fo	olding, proce	ssing, degradat	ion (Ch 3	30, 31)	
5th	The reception a	and transmissio	on of extrace	lular informatio	n (Ch 32	2)	
6th	Nitrogen acquis	stion and amin	o acid metak	oolism (Ch 25)			
7th	Synthesis and d	legradation of	nucleotides	(Ch 26)			
8th	Mid-term exam	1					
9th	Metabolism ove	erview, Glycoly	sis (Ch 17, 1	8)			
10th	TCA cycle (Ch 1	19)					
11th	Electron transp	ort and oxidat	ive phosphor	ylation (Ch 20)			
12th	Photosynthesis	(Ch 21)					
13th	Fatty acid catab	oolism (Ch 23)					
14th	Lipid biosynthe:	sis (Ch 24)					
15th	Summary for fir	nal					
16th	Final Exam						

*If there will be experiments, mark it in the "Remarks" section.

Instructor

(seal) Lecture Language