

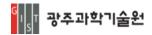
대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: BS3201

Classification	GIST College	Course No.	BS3201-01	Hrs:E:Credits	3/0/3	Instructor	Park, Daeho	Lecture Language	English		
Course	Korea	미생물학		,							
Title	English	Microbiology	,								
Course Outline	Generally, microbe is defined as a unicellular organism, but, broadly, it contains some of eukaryotes including protist and fungi, prokaryotes, and viruses. Actually, even though microbes are very small and we can see the microbe only by microscopy, the microbe affects living habitat greatly. In this microbiology course, our focus is a studying of microbes characteristics and classifications. And then, we will study about the direct and indirect effect of microorganism on living organism and living habitat.										
Prerequisite	AND GS2302 (	AND GS2302 (분자생물학),									
Textbook & References		Microbiology: An Introduction, Books a la Carte Edition (10th Edition)  By Gerard  J. Tortora , Berdell R. Funke , Christine L. Case									
Etcetera											
			Weekl	y Course Sched	ule						
Week			Des	cription				*Remark	ks		
1st	Microbiology &	The Origin of	Life								
2nd	Bacterial Divers	sity; Cell Struct	ure (Structur	e and Function	of Proka	ryotes)					
3rd	Chemistry of Lit	fe (Cell Structu	ıre and Orgaı	nization)							
4th	Physiology & Go	enetics (Divers	ity of Prokary	otic Metabolisr	n)						
5th	Microbial Grow	th (Growth of	Bacterial Po	oulations)							
6th	Microbial Grow	th (Nutrition a	and Growth o	of Bacteria)							
7th	Control of Micr	obial Growth	& Antimicrob	ials							
8th	Midterm Exam										
9th	Microbial Ecolo	gy									
10th	Epidemiology										
11th	Normal Flora (T	he Bacterial Fl	ora of Huma	ns)							
12th	Pathogenesis (N	Pathogenesis (Machanisms of Bacterial Pathogenecity)									
13th	Pathogenic Mic	robiology									
14th	Virology										
15th	Microbial Infect	tion and Immu	nity								
16th	Final Exam										

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

Instructor

(seal)



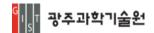
대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: BS3204

Classification	GIST College	Course No.	BS3204-01	Hrs:E:Credits	3/0/3	Instructor	Lee, Gwangrog	Lecture Language	English			
Course	Korea	생물물리 화학	입문									
Title	English	Introduction	to Biophysic	al Chemistry								
	The goal of this	course is to u	nderstand th	e biophysical pr	operties	and principl	es of biolo	gical processes.	This			
	course will cove	er thermodyna	mics, Chemic	cal Equilibrium,	Enzyme l	Kinetics, Mo	olecular Inte	eractions,				
Course	Spectroscopy (T		-									
Outline		Atomic Structure, Chemical Bonds and Protein Interaction, Electron Transition and optical spectroscopy). The										
		students are expect to understand the biological processes of life science at the level of atoms and molecules.  The prerequisite of this class is general chemistry, general biology, biochemistry or its equivalent.										
	The prerequisite	e of this class i	s general che	emistry, general	biology,	biochemistr	y or its equ	iivalent.				
Prerequisite	OR BS3113 (생호	화학 I), OR GS2	2302 (분자생음	물학),								
Textbook & References	Biophysical Che	Biophysical Chemistry (by James P. Allen) 2008 Wiley-Blackwell										
Etcetera												
Weekly Course Schedule												
Week			Des	cription				*Remarl	ks			
1st	Biophysical Che	emistry (by Jam	nes P. Allen) 2	2008 Wiley-Blac	kwell							
2nd	First and Secon	d Law of Ther	modynamics									
3rd	Phase, Equlibria	a and Reaction	S									
4th	Kinetics and En	zymes										
5th	Statistical Therr	modynamics										
6th	Infrared Spectro	oscopy										
7th	Mid-term Exam	١.										
8th	Atomic Structu	re										
9th	Chemical Bonds	s and Protein I	nteractions									
10th	Electronic Trans	stions and Opt	ical Spectros	сору								
11th	Single molecule	e Enzymology										
12th	Fluorescence Te	echnology										
13th	Signal Transduc	ction										
14th	Membrane Pote	entials, Transp	orters, and C	hannels								
15th	Molecular Imag	jing										
16th	Final Exam.											

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Instructor

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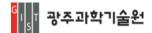


대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: BS4201

Classification	GIST College	Course No.	BS4201-01	Hrs:E:Credits	3/0/3	Instructor	Self Milderly Dr., No. 800, Selfer	Lecture Language	English	
Course	Korea	발생생물학								
Title	English	Developmen	tal Biology							
Course Outline	This course aims to integrate organismal, cellular, genetic and molecular aspects of animal development, with a focus on the underlying principles and molecular mechanisms involved in cellular differentiation, morphogenesis and growth. Topics include oogenesis, spermatogenesis, fertilization, embryonic cleavage, gastrulation, early development of model vertebrates and invertebrates, patterning, organogenesis and stem cells.									
Prerequisite										
Textbook & References	Developmental	Developmental Biology, 11th Edition by Scott F. Gilbert (recommended, but not required to purchase)								
Etcetera										
	Weekly Course Schedule									
Week			Des	cription				*Remark	(S	
1st	Ch. 1. Making N	Ch. 1. Making New Bodies; Ch. 2. Specifying Identity  Sukwon Jin								
2nd	Ch. 4. Cell to Ce	ell Communica	ation					Sukwon Jin		
3rd	Ch. 3. Differnet	ial Gene Expr	ession; Ch. 5.	Stem Cells				Sukwon Jin		
4th	Ch. 7. Fertilizati	on						Sukwon Jin		
5th	Ch. 8. Rapid Sp	ecification in S	Snails and Ne	matodes				Woo Jin Park		
6th	Ch. 9. The Gene	etics of Axis S <sub>I</sub>	pecification ir	n Drosophila				Woo Jin Park		
7th	Midterm Exam							Sukwon Jin		
8th	Ch. 11. Amphib	oians and fish:	Early develor	oment and axis	formatio	n		Woo Jin Park		
9th	Ch. 11. Amphib	oians and fish:	Early develor	oment and axis	formatio	n		Woo Jin Park		
10th	Ch. 12. Birds ar	nd Mammals						Sukwon Jin		
11th	Ch. 13. Neural Specificity	Tube Formatic	n and Patter	ning; Ch. 15. N	eural Cre	st Cells and	Axonal	Mi-Ryoung So Sukwon Jin	ong/	
12th	Ch. 16. Ectoder	mal Placodes	and the Epido	ermis; Ch. 17. F	Paraxial N	1esoderm		Sukwon Jin		
13th	Ch. 18. Interme	Ch. 18. Intermediate and Lateral Plate Mesoderm; Ch. 19. Development of the Tetrapod								
14th	Ch. 20. The End	doderm; Ch. 2	2. Regenerat	ion				Sukwon Jin		
15th	Final Exam							Sukwon Jin		
16th	-							-		

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

Instructor (seal)



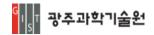
대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: BS4207

Classification	GIST College	Course No.	BS4207-01	Hrs:E:Credits	3/0/3	Instructor	Williams, Darren	Lecture Language	English		
Course	Korea	암생물학 개론									
Title	English	Introductory	Cancer Biolog	ЭУ							
	This course pro			_		_					
Course	that lead to the transformation of a normal cell into a cancer cell will be described. Examples of different types										
Course Outline		of tumors and approaches to treating or preventing cancer are also taught in this course. The materials in this									
		course should be suitable for both life science students and students from other departments who are									
	interested in un	nterested in understanding cancer.									
Prerequisite											
Textbook &	The Biology of	Cancer: Chant	ers 1-8 (Roh	nert Δ. Weinher	n Garlan	nd Science.	1st or 2nd a	edition)			
References	The biology of	Curreer, Criupt		Vert A. Weinber	g, Gariai	id Science,	13001 2110				
Etcetera	No extra requir	No extra requirements are needed for this course									
Weekly Course Schedule											
Week	Description *Rer							*Remark	<b>K</b> S		
1st	Course introduc	ction and Part	1: The biolog	y and genetics	of cells a	nd organisr	ns	Darren R. Wil	lliams		
2nd	Part 1: The biol	ogy and genet	tics of cells an	nd organisms - o	continued	k		Darren R. Wil	lliams		
3rd	Part 2: The natu	ure of cancer						Darren R. Wil	lliams		
4th	Part 3: Tumor v	riruses						Darren R. Wil	lliams		
5th	Part 3: Tumor v	riruses - contin	ued					Darren R. Wil	lliams		
6th	Part 4: Cellular	Part 4: Cellular oncogenes Darren R. William							lliams		
7th	Part 4: Cellular	oncogenes - c	ontinued					Darren R. Wil	lliams		
8th	Mid-term exam	1						Darren R. Wil	lliams		
9th	Part 5: Growth	factors and th	eir receptors					Darren R. Wil	lliams		
10th	Part 6: Cytoplas	smic signaling	circuitry prog	rams many of t	he traits	of cancer		Darren R. Wil	lliams		
11th	Part 6: Cytoplas	smic signaling	circuitry prog	rams many of t	he traits	of cancer -	continued	Darren R. Wil	lliams		
12th	Part 7: Tumor s	uppressor ger	ne pRB and co	ntrol of the cel	l cycle clo	ock		Darren R. Wil	lliams		
13th	Part 7: Tumor s	uppressor ger	ne pRB and co	ntrol of the cel	l cycle clo	ock - contin	ued	Darren R. Wil	lliams		
14th	Part 8: p53 and	l apoptosis: m	aster guardia	n and executior	ner			Darren R. Wil	lliams		
15th	Part 8: p53 and	l apoptosis: m	aster guardia	n and executior	ner - cont	inued		Darren R. Wil	lliams		
16th	Final exam							Darren R. Wil	lliams		

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

Instructor

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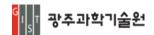


대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: BS4213

								1			
Classification	GIST College	Course No.	BS4213-01	Hrs:E:Credits	3/0/3	Instructor	Song, Woo Keun	Lecture Language	English		
Course	Korea	의학 면역화학									
Title	English	Medical Imm	unochemistr	у							
	This Course will										
Course Outline	Antigen structure, Ab structure, reaction of Ag-Ab.										
Outline		Clinical application of Ag-Ab reaction.									
	Immunologic	Immunological methods.									
Prerequisite											
Textbook	Lecture & Discu	ıssion									
References		.551011									
Etcetera											
Weekly Course Schedule											
Week	Description Description								<u> </u>		
1st	Antigenic determinant							*Remark Woo Keun Sc			
2nd	Antigenic deter							Woo Keun Song			
3rd	Immunological		Jogical Scien	CAS				Woo Keun Sc			
4th	Immunological							Woo Keun Sc			
5th	Analysis of anti							Woo Keun Sc			
6th	Analysis of anti	-						Woo Keun Sc			
7th	Antibody-Antig		TISTICS					Woo Keun Sc			
8th	Mid-term Exam							Woo Keun Sc			
9th	Antibody-Antig							Woo Keun Sc			
10th	Detection of Ab							Woo Keun Sc			
11th	Detection of Ak							Woo Keun Sc			
12th		Characteristics of Idrotypic Antibody							ong		
13th	Clinical application of Ag-Ab coplex							Woo Keun Sc			
14th	Clinical application of Ag-Ab coplex  Woo Keun Song										
15th	Clinical applicat		·					Woo Keun Sc			
16th	Final Exam							Woo Keun Sc			
								1	1 1 2		

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

Instructor (seal)



대학분류: GIST대학 년도: 2019 학기: 1학기 교과목번호: BS4216

Classification	GIST College	Course No.	BS4216-01	Hrs:E:Credits	3/0/3	Instructor	Yoo,Yung Joon	Lecture Language	English		
Course	Korea	단백질과 생명	과학								
Title	English	Proteins in Li	fe Sciences								
	Proteins are the	major workfo	orce in the ce	ll. Where do th	ey come i	from? What	are they?	What do they d	o?		
Course	Where do they	Where do they go? This course will cover the life of protein from the cradle to the grave: birth, maturation,									
Outline		trafficking, modification, interaction, and degradation. Protein homeostasis, protein quality control, and the related diseases will be discussed based on the recent publications.									
	related diseases	elated diseases will be discussed based on the recent publications.									
Prerequisite											
Textbook &	[1] Biochemistr	y by Garrett ar	nd Grisham (	6th ed); [2] Stru	ıctural Bi	ology by Lilj	as et al (2n	d ed); [3] The C	ell: a		
References	Molecular Appr	oach by Coop	er GM (7th e	d); [4] Annual	Review o	f Biochemis	try (ARB)				
Etcetera											
Weekly Course Schedule											
Week				- cription				*Remark	cs		
1st	1. Protein's Life	1. Protein's Life Cycle							:1		
2nd	2. Protein's Birt	h (Translation	)					[1], [2]			
3rd	3. Information	Transler for Pr	otein's Birth (	(Transcription)				[1],[2]			
4th	4. Proteins's Ma	aturation (Fold	ding and Proc	essing)				[3]			
5th	5. Shapes of Pro	oteins (Structu	ıres)					[2]			
6th	6. Flexible Shap	e: Intrinsically	Disordered P	roteins (IDPs)				ARB			
7th	7. Protein's Mo	difications (PT	Ms)					ARB			
8th	Mid-Term Exam	า									
9th	8. Protein's Jou	rney Part I (So	rting and Tra	nslocation)				[3], ARB			
10th	9. Protein's Jou	rney Part II (So	orting and Trr	nslocation)				[3], ARB			
11th	10. Protein's Sc	cial Life (Inter	actions)					papers			
12th	11. Protein's De	eath (Degrada	tion)					ARB			
13th	12. Proteasoma	al and Autoph	agic Degrada	tion System				ARB(2017) 86	5:193-		
14th	10 Protein Qua	lity Control (Po	QC) and Agin	ıg				ARB			
15th	13. Case Study:	p53 as an an	ticancer drug	targets				papers			
16th	Final Exam							-			

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

Instructor (seal)
Lecture Language