Lecture schedule for Biochem 508: Spring 2015

Part I: Biosynthesis

Wed	Jan 21	1. Review of metabolism and the pentose phosphate shunt pathway	Pagliarini
Fri	Jan 23	2. Photosynthetic carbon fixation	Pagliarini
Mon	Jan 26	3. Biosynthesis of fatty acids and eicosanoids	Pagliarini
Wed	Jan 28	4. Biosynthesis of triacylglycerol and phospholipids	Pagliarini
Fri	Jan 30	5. Elucidating lipid metabolism: classic and modern techniques	Pagliarini
Mon	Feb 2	6. Biosynthesis of sterols and isoprenoids	Pagliarini
Wed	Feb 4	7. Cytochrome P-450 and biosynthesis	Pagliarini
Fri	Feb 6	8. Nitrogen fixation and amino acid biosynthesis	Pagliarini
Mon	Feb 9	9. Compounds formed from amino acids	Pagliarini
Wed	Feb 11	10. Nucleotide biosynthesis	Pagliarini
Fri	**Feb 13**	**Exam 1 covers lectures 1-10 (worth 100 points)**	

Part II: Biosignaling and the Integration of Metabolism

Mon	Feb 16	11. Tissue specialization in metabolism	Pagliarini
Wed	Feb 18	12. Hormones in the integration of metabolism	Lohman (GA)
Fri	Feb 20	13. Insulin receptor: A receptor tyrosine kinase	Pagliarini
Mon	Feb 23	14. β-Adrenergic receptor, cAMP, and protein kinase A	Pagliarini
Wed	Feb 25	15. Ion channels and signaling through calcium	Pagliarini
Fri	Feb 27	16. Integration of metabolism: Regulation of body weight	Pagliarini
Mon	Mar 2	17. Applied biosignaling: Vision and olfaction	Pagliarini
Wed	Mar 4	18. Applied biosignaling: Regulation of cell division	Nelson
Fri	Mar 6	19. Cancer genetics and metabolism	Nelson
Mon	**Mar 9**	**Exam 2 covers lectures 11-19 (worth 100 points)**	

Part III: Information Pathways

Wed	Mar 11	20.	Nucleic acid technology	Bednarek
Fri	Mar 13	21.	Nucleic acids; topology and packaging	Bednarek
Mon	Mar 16	22.	DNA metabolism I	Bednarek
Wed	Mar 18	23.	DNA metabolism II	Bednarek
Fri	Mar 20	24.	DNA metabolism III	Bednarek
Mon	Mar 23	25.	DNA Repair	Bednarek
Wed	Mar 25	26.	RNA synthesis	Bednarek
Fri	Mar 27	27.	Regulation of gene expression I	Bednarek

Mon	**Mar 30**	**Spring Break**		
Wed	**Apr 1**	**Spring Break**		
Fri	**Apr 3**	**Spring Break**		
Mon	Apr 6	28.	Regulation of gene expression II	Bednarek
Wed	Apr 8	29.	Regulation of gene expression III	Bednarek
Fri	Apr 10	30.	RNA processing	Bednarek
Mon	**Apr 13**		**Exam 3 covers lectures 20-30 (worth 100 points)**	

Part IV: Protein Synthesis and Targeting

Wed	Apr 15	31.	The genetic code	Bednarek
Fri	Apr 17	32.	Protein synthesis I: Ribosomes/tRNA	Bednarek
Mon	Apr 20	33.	Protein synthesis II: Translation Initiation/Regulation	Bednarek
Wed	Apr 22	34.	Protein synthesis III: energetics and special aspects	Bednarek
Fri	Apr 24	35.	Molecular chaperones	Bednarek
Mon	Apr 27	36.	Secretory protein synthesis	Bednarek
Wed	Apr 29	37.	Secretory Protein Trafficking	Bednarek
Fri	May 1	38.	Vesicular transport	Bednarek
Mon	May 4	39.	Nuclear and Mitochondria protein import	Bednarek
Wed	May 6	40.	Protein degradation	Bednarek
Fri	May 8	41.	In Class Review	Bednarek
Fri	**May 15**		**Final (worth 150 points; cannot be dropped)** **~50 points Cumulative** **~100 points from lectures 30-40** **2:45 pm–4:45 pm; Room TBA**	