

CELL STRUCTURE AND FUNCTION 301

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LAB ACTIVITIES

Course #: 34-BIOL-301	Autumn Quarter	David B. Fankhauser, Ph.D.
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Tues:	Lab Activity	Handouts, Protocols	Illustrations, Data
9/29	Discussion of how the lab will function and how to keep your Lab Notebook. Microscope Use QUIZ I (given at 4:20)	Sched Lab Actvts, Tbl Cntnts Laboratory Notebook Proc. Format Suggestions Use of Contact Paper Samp 1st Notebook Gradesheet Notebook Illustrations Binocular Microscope Care Using & Eval the Microscope Microscope gradesheet Tooth Scraping Smear	Features of a notebook page Binocular Microscope Pear leaf c.s. Tooth scraping smear
10/6	Classic experiments which revealed cell structure (Think: Hook, Schleiden and Schwann)	Cells: Functional Units of Living Organisms	Cells: Cork Onion epithelium Hyaline cartilages chicken muscle
10/13	Protein Assay QUIZ II (given at 4:20)	Microbiuret Standardization Sample Layout of an Expt. Spectrophotometer Use Graph Construction Sample Math Problems	Repipet and pipet bulb Spectrophotometer grph: Microbiuret st'd'z'n data: [Protein] in samples tabl's: [Protein] in unknowns Microbiuret stand'z'n
10/20	Classic Enzyme: Lactase Assay [Notebooks Due 10/21]	Displacement Pipetter Use Enzyme Assay: Lactase Reagents for Lactase Assay	Displacement Pipetter Lactose, ONPG graph: A_{450} vs [lactase]
10/27	NOTEBOOKS RETURNED Glycolysis molecules	First Notebook Gradesheet Glycolysis/Fermentat'n models	Glycolysis Molecule Struct's
11/3	MIDTERM RETURNED Activity in Lactase Brands		bar graph: Lactase: Specif Activity by Brand
11/10	Tricarboxylic Acid Cycle	Krebs Cycle with Molecular Models	Krebs Cycle Molecular Structures
11/17	pH Optimum determinat'n QUIZ III (given at 4:20)	pH Optimum of Lactase	graph: Lactase Activity vs pH
11/24	Enzyme Kinetics: Lineweaver-Burk Plot [Notebooks Due 11/25]	Lineweaver-Burk Plot Protocol	table: activity vs. [ONPG] grph: activity vs [ONPG] grph: Lineweaver-Burk Plot
12/1	NOTEBOOKS RETURNED Isolation of Chloroplasts. QUIZ IV (given at 4:20)	Isolation of Chloroplasts by Differential Centrifugation Chloroplast reduction of DCIP in light	Dichlorophenolindophenol centrifuge & balance tubes Spinach fractured cells Spinach chloroplasts grph: chloroplast reduction of DCIP vs time Save NBGS for Winter NB
12/8	Tuesday: FINAL EXAM, 1:30-3:30		