

Biol 6147/7800 Section 1 Topics in Life Sciences

1 Instructors

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2 Syllabus and Course Information

 Syllabus Mastering Biology Information

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Lecture Topics and Chapters

	Week	Topic	Chapter
Cell Biology	1	Introduction and Biological Molecules	2, 3, 4, 5
	2	Membrane Function	7
		Energy and Enzymes	8
		Energetics: Respiration	9
		Energetics: Photosynthesis	10
Genetics	3	Cell Division: Mitosis	12
		Meiosis	13
		Mendelian Genetics	14, 15
		Molecular Genetics	16, 17, parts of 18
Evolution	4	Descent with Modification	22
		Population Evolution	23

		Origin of Species	24
		History of Life	25
		Phylogeny	26
Diversity		Plant Diversity	29, 30
	5	Invertebrates	33
		Vertebrates	34
Physiology		Plant Structure and Physiology	35-38
	6	Animal Form and Function	11, 40-50

4 Biology Content PowerPoint Files

-  Week 1 Biological Molecules
-  The Prion Heretic
-  Lobelia telekii - forms ice to prevent freezing
-  Week 2: Cell Membranes
-  Week 2: Energy & Enzymes
-  Endothermy in Fish
-  Week 2 Cellular Respiration
-  Week 2 Photosynthesis
-  Week 3 Cell Division
-  Cell Division Review
-  Cell Division Work Sheet
-  Week 3 - Mendelian Genetics
-  Week 3-DNA Structure and Replication
-  Week 3 Transcription, Translation and Gene Regulation

5 Scientific Teaching Materials

-  Teachable Unit Worksheet
-  TU Template
-  Active Learning
-  Scientific Teaching
-  Karpicke & Roediger 2008
-  Assessment and Learning
-  Cell Biology - Organelles
-  Bloom's and Pirates
-  Questions
-  TU Rubric
-  Water Cycle
-  Cells?
-  Krebs Cycle
-  Gene expression
-  Smith et al. 2009



Smith et al. 2011



Kagan 1989



Cooperative Learning Structures



Peer Instruction & Cooperative Learning

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From the National Academy of Sciences and the Institute of Medicine



Science, Evolution and Creationism (2008)

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