Syllabus

Brains, Brawn, and Behavior

Biology 105-51, Spring 2007

Professor: John Long

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office hours: M, 10:30 a.m. to 12 noon, or by appointment

Month	Day	Date	Topic	Reading (Freeman or other)
Jan	R	25	Brains, brawn & behavior	—
	T	30	Cell structure	Ch 7, 128-148
Feb	R	1	Neurons, electric cells	Ch 45, 1026-1033
	T	6	Cell communication	Ch 8, 163-174
	R	8	Synapses	Ch 45, 1038-1048
	T	13	Senses and sensation	Ch 46, 1053-1073
	R	15	Bird brains	Striedter, Ch 3
	T	20	Natural selection	Ch 23, 494-512
	R	22	Evolution of brains	Striedter, Ch 4
	T	27	**Exam I or Paper I**	—
March	R	1	Cytoskeleton	Ch 7, 149-155
	T	6	Genes & central dogma	Ch 15, 325-335
	R	8	Myosin evolution	Stedman et al. 2004
spring break				
	T	27	Skeletons & muscles	Ch 46, 1066-1073
	R	29	Muscles & nerves	Hill & Wyse, Ch 17
April	T	3	Animal diversity	Ch 31, 698-721
	R	5	Vertebrate locomotion	Ch 33, 749-772
	T	10	**Exam II or Paper II**	—
	R	12	Behavior	Ch 51, 1166-177
	T	17	Navigation	Ch 51, 1183-1184
	R	19	Rhythm: neural basis	Delcomyn, 1980
	T	24	Gene theory of inheritance	Ch 13, 269-297
	R	26	Genes & behavior	Whitfield et al. 2003
May	T	1	Altruism	Ch 51, 1185-1190
	R	3	Evolution of cooperation	Clutton-Brock et al. 2002
	T	8	**Exam III or Paper III**	—

Assignment	Due Date	Points
1. Goldman equation	R, 8 Feb, 9:00 a.m.	10
2. Exam or Paper I	T, 27 Feb, 9:00 a.m.	20
3. Muscle mechanics	R, 29 March, 9:00 a.m.	10
4. Exam or Paper II	T, 10 April, 9:00 a.m.	20
5. Critique of Delcomyn	R, 26 April, 9:00 a.m.	10
6. Exam or Paper III	T, 8 May, 9:00 a.m.	20
7. Participation, attendance		10
	Total	100

Important notes: you may take either one exam and write two papers OR two exams and one paper. You decide.

All chapters assigned from Freeman (2005. Biological Science) unless otherwise noted. Non-Freeman readings are available electronically at our Blackboard site.

Late penalty: 2% per day.
Only an excuse from your Class Advisor will eliminate late penalties.

Academic accommodations are available for students with disabilities who are registered with the Office of Disability and Support Services. Students in need of disability accommodations should schedule an appointment with me early in the semester to discuss any accommodations for this course which have been approved by the Office of Disability and Support Services, as indicated in your DSS accommodation letter.

*** SKILLS-BASED GOALS ****

1. Scientific literacy and learning: ability to understand the language of biology and to independently increase one's knowledge of the discipline, including the development of effective study and memorization skills.

2. Information acquisition: ability to search for and acquire scientific literature, distinguishing between peer-reviewed and non-vetted sources, and citing those sources appropriately in written and oral assignments.

3. Critical assessment: begin to develop the ability to read and evaluate both popular and primary scientific literature, with particular attention to quantitative information, methodology, and the structure of a logical argument.

4. Communication: ability to accurately write and/or speak about scientific concepts, with emphasis on the proper framing of biological questions and the logic of scientific arguments.

5. Inductive reasoning: ability to extend knowledge from specific to general cases, from examples to principles, and from familiar to new areas of scientific and non-scientific fields.