

Course Title: Can Exercise Change your Brain?
Spring 2010 Thursdays 2-4:30 p.m. Palladium MPR
Format: Hour 1: Exercise, Hour 2: Lecture, Last 1/2 hour: Discussion**
Instructor: W.A. Suzuki
Grading: 1/3 Class Participation 1/3 Oral presentation 1/3 Final Term Paper

TENTATIVE SCHEDULE

Lec #	Lecture Topic	Reading
1	Historical Overview: From Lashley to enriched environments	Diamond, 2001; Diamond et al., 1964,1966,1976; Globus et al., 1973, Kretch et al., 1961; Malkasian and Diamond 1971, Rosenzweig et al., 1961
2	Effects of Motor Learning and Exercise on the Motor Cortices	Black et al., 1990; Greenough et al., 1985; Kleim, et al., 1997, 1996, 1998, 2002; Swain, et al., 2003
3	BDNF, Exercise and the Brain	Adlard and Cotman, 2004; Cohen-Cory et al., 1995; Cotman and Berchtold, 2002; Hall et al., 2000; Ickes et al., 2000; Kesslack et al., 1998; Klintova et al., 1994 Mizuno et al., 2000; Neeper et al., 1995; Neeter et al., 1996; Schinder and Poo, 2000; Tong et al., 2002
	Background on cognitive testing and first Cognitive tests of the semester	No readings
4	Neurogenesis and the brain: Historical Overview	Altman and Das, 1965; Altman 1962; Eriksson et al., 1998; Gross, 2000; Kapland and Hinds, 1977; Nottebohm, 2004; Patton and Nottebohm, 1984; Rakic, 1985.
5	Modulating Neurogenesis: Enrichment, stress and aging	Brown et al., 2003; Hauser et al., 2009; Kempermann et al., 1977; Rochefort et al., 2002; Van Praag et al., 1999; Van Praag et al., 1999
6	Mid-term	No reading

	presentations	
7	Neurogenesis and Learning: Recent findings	Barnea and Nottebohm, 1994; Bartolomucci et al., 2002; Cristie and Cameron, 2006; Epp et al., 2007; Gould et al., 1999; Imayoshi et al., 2009; Jessberger et al., 2009; Leuner et al., 2006
8	Neurogenesis and Learning continued	Drapeau et al., 2007; Dupret et al., 2008; Dupret et al., 2007; Kee et al., 2007
9	Neurogenesis and brain: What is its function, a debate	Aimone et al., 2009; Aimone et al., 2006; Barnea and Nottebohm, 1996; Becker and Wojtowicz, 2007; Gould et al., 1999; Kempermann et al., 2004; Lledo et al., 2006
10	Effects of Exercise in Humans:elderly	Abbott et al., 2004; Larson et al., 2006; Shay et al., 1992; Eggermont et al., 2009; Bixby et al., 2001; Colcombe et al., 2004; Kramer et al., 2001; Ruchschweyh et al., 2009
11	Effects of Exercise in Humans: Young people	Pereira et al., 2006; Stroth et al., 2008; Themanson et al., 2008; Kamijo et al., 2002;
12	Effects of exercise in humans: in mental disease	Blumenthal_etal_1999;Blumenthal_etal_2007;Greenwood_2007; Greenwood_Fleshner_2008; Sapolski_1996; Sapolski_2000; Shirayama et al_2002.
13	Final Student Presentations	
14	Final Student Presentations	

Note: Unless there is a physical reason why you cannot participate, all students will be expected to participate in the exercise component of the class