

University of New South Wales
PSYC3051 Physiological Psychology
Session 2, 2013

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Time and Location

Lectures: Tues 5-6 (Mathews LT D)
 Thur 1-2 (Mathews LT D)

Labs: Tues 3 - 5, (Weeks 3-10, 12 Mathews 203)
 Thur 2 - 4, (Weeks 3-10, 12 Mathews 203)
 Fri 9 - 11, (Weeks 3-10, 12 Mathews 203)
 Fri 11 - 1, (Weeks 3-10, 12 Mathews 203)

Textbooks

There is no textbook set for this course. The course is organized around review articles taken from journals such as the Annual Review of Psychology, the Annual Review of Neuroscience, Trends in Neurosciences, Nature Neuroscience Reviews or similar. These articles can be downloaded via the University Library holdings or in some cases from the Moodle website. You may also find the textbooks listed below helpful. Please note that you are not required to purchase either of these books. They are listed simply to provide you with another source of information for some of the materials covered in the lectures.

Textbooks:

Carlson, N. R. (2012). *Physiology of Behavior*. 11th Edn. Pearson Education.
Pearce, J.M. (2008). *Animal Learning & Cognition*. 3rd Edn. Psychology Press.

Journal Articles:

McNally:

Schultz W (2007) Behavioral dopamine signals. Trends in Neurosciences, 30(5) pp. 203 – 210.
(doi:10.1016/j.tics.2007.03.007).
Tsai, H.C., Zhang, F., Adamantidis, A., Stuber, G.D., Bonci, A., de Lecea, L., & Deisseroth, K. (2009). Phasic firing in dopaminergic neurons is sufficient for behavioral conditioning. Science, 324, 1080-1084
(doi: 10.1126/science.1168878)

Maren S, Quirk GJ (2004). Neuronal signalling of fear memory. Nat Reviews Neuroscience 5, 844-852.
McNally, G.P., Johansen, J.P., & Blair, H.T. (2011). Placing prediction into the fear circuit. Trends in Neurosciences, 34, 283 – 292.
Bernstein JG, Boyden ES. (2011). Optogenetic tools for analyzing the neural circuits of behaviour. Trends in Cognitive Sciences, 15, 592-600. (doi: 10.1016/j.tics.2011.10.003).

Westbrook:

Pearce, J. M., & Bouton, M. E. (2001). Theories of associative learning in animals. *Annual Review of Psychology*, 52, 111-139.

(doi:10.1146/annurev.psych.52.1.111)

Rescorla, R. A. (1988). Behavioral studies of Pavlovian conditioning. *Annual Review of Neuroscience*, 11, 329-352. (doi:10.1146/annurev.ne.11.030188.001553)

Mackintosh, N. J. (1974) The psychology of animal learning. Chapter 6 (pages 271 – 347) *Instrumental learning: avoidance and punishment*. (copy available on Moodle).

Dickinson, A. & Balleine, B.W. (2002). The role of learning in motivation. In CR Gallistel (Ed) *Learning, Motivation & Emotion*, Volume 3 of *Steven's Handbook of Experimental Psychology*, Third Edition (pp. 497-533). New York: John Wiley & Sons (copy available on Moodle)

Killcross:

Graybiel, A. M. (2008). Habits, rituals, and the evaluative brain. *Annual Review of Neuroscience*, 31, 359-387.

(doi:10.1146/annurev.neuro.29.051605.112851)

Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. *Annual Review of*

Neuroscience, 24, 167-202.

(doi:10.1146/annurev.neuro.24.1.167)

Wallis, J. D. (2007). Orbitofrontal cortex and its contribution to decision-making. *Annual Review of Neuroscience*, 30, 31-56.

(doi:10.1146/annurev.neuro.30.051606.094334)

Clemens:

Berridge KC. Motivation concepts in behavioral neuroscience. *Physiol Behav.* 2004 Apr;81(2):179-209. Review. PMID: 15159167 [PubMed - indexed for MEDLINE]

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The final examination will be held in the usual end of session examination period, and will assess the lecture material, excluding that assessed in the midterm. This will take the format of an 75-question multiple choice examination over 2 hours, with 15 questions from each of the 4 sections of the course delivered by different lecturers (lecture content and associated readings), and 15 questions derived from practical classes in weeks 4-7 and associated readings.

Please see the Psychology Student Manual for general advice and regulations concerning assessment, class attendance, and other relevant matters. Please also note that this course may require work outside of scheduled class-time.