

BIOLOGY 3253: FA
Animal Physiology: Intracellular Communication and Coordination.
2016 Serial
Instructor: Dr. Robert J. Omeljaniuk, CB-4013.

1. CALENDAR DESCRIPTION.

Biology 3253. Animal Physiology: Intracellular Communication and Coordination.
3-0; 0-0.

Description: An examination of integrated intracellular communication mechanisms which enable extracellular messengers, including hormones, neurotransmitters and drugs, to exert their effects. Areas to be discussed include primary messenger receptors, intracellular signaling mechanism, and cellular adaptation to messenger stimuli.

2. MARKING SCHEME.

- a. Term Test. 20 % of final mark 04 October 2016.
- b. Term Test. 40 % of final mark 03 November 2016.
- c. Term Test. 40 % of final mark 01 December 2016.

3. TENTATIVE LECTURE OUTLINE.

- a. Introduction;
- b. Cell membrane;
- c. Cytoskeleton;
- d. Nucleus;
- e. Endoplasmic Reticulum: Golgi complex;
- f. Exocytosis: structures and molecular processing;
- g. Primary Messenger Receptors;
- h. Specific Signaling Mechanisms; and
- i. Cellular adaptation to messenger stimuli.

5. TEXTBOOKS.

- a. Boron, W.F. and Boulpaep, E.L. 2016. Medical Physiology, 3rd ed. Saunders – Elsevier, Philadelphia PA. 1337 pp.
- b. Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K., and Walter, P. 2015. Molecular Biology of the Cell, 6th ed. Garland Science, New York NY. 1242 pp.
- b. Krauss, G. 2008. Biochemistry of Signal Transduction and Regulation, 4th ed. Wiley-VCH, Weinheim. 626 pp. Only a recommendation!