BIOLOGY 3253:
Animal Physiology: Intracellular Communication and Coordination.
2014 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 07 October 2014.

   b. Term Test. 40 % of final mark 04 October 2014.

   c. Term Test. 40 % of final mark 27 November 2014.

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. 2012. Medical Physiology, 2nd ed. (revised). Saunders – Elsevier, Philadelphia PA. 1337 pp.

   b. Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K., and Walter, P. 2008. Molecular Biology of the Cell, 5th ed. Garland Science, New York NY. 1268 pp.

   b. Krauss, G. 2008. Biochemistry of Signal Transduction and Regulation, 4th ed. Wiley-VCH, Weinheim. 626 pp. Only a recommendation!