

# **BME 42-620 Reading Assignment 1**

Assigned: Sep-06-2011

Due: Sep-15-2011 in class or by 5PM at MI 401

## **A. Overview**

This reading assignment aims to serve the following purposes:

- To introduce basic concepts and principles of systems biology.
- To promote system-level thinking of cell biology.
- To encourage you to develop your own understanding of biological systems through critical and independent thinking.

## **B. Instructions**

### **B.1 Reading material**

You are required to read the following three reviews, which can be downloaded from the course website (<http://www.andrew.cmu.edu/course/42-620>; Click on “Assignments” on the left of the page).

1. Hartwell LH et al, [From molecular to modular biology](#). *Nature* 1999, 402 (Suppl.):C47-C52.
2. Kirschner M, [The meaning of systems biology](#). *Cell* 2005, 121:503-504.
3. Kitano H, [Systems biology: a brief overview](#). *Science* 2002, 295:1662-1664.

Two additional short articles are handed out in class. Reading of these two articles is optional but recommended. There is no need to be concerned if you cannot fully understand these articles. In fact, this is expected. The main goal is to encourage you to think critically and independently. We will return with a discussion on systems biology at the end of the course so that you can see how much your understanding may have evolved.

### **B.2 Specific requirements**

Based on the references provided, write a report that discusses your understanding of systems biology. Feel free to use any other references you find useful. Feel free to discuss your thoughts on systems biology but be sure to address the following questions:

1. What is systems biology?
2. Why do we need to study living organisms at a system level? What are the benefits and limitations? Do you see any potential challenges?

### **B.3 Report submission**

Reports should be typed and submitted in printed copies. We cannot accept reports in other forms, including email attachments. Late reports cannot be accepted. Exception will only be considered on a case-by-case basis.

### **C. Report format**

The report, including references, must not be more than 2 pages. Reports longer than 2 pages can not be accepted.

Page size: letter

Line space: single

Page margins: 1 inch

Font size: 12 point fonts for the main text; 10 point fonts for listed references

### **D. Some general guidelines on preparing a reading report**

1. The single most important guideline regarding writing your report is to think independently and use your own words. Avoid literal replication of words from references since it could run the risk of unintentional plagiarism. If you must cite original text, mark your citation using quotation marks.
2. Organize your report into sections and use section titles. This often substantially improves readability.
3. Avoid long paragraphs. Instead, try to divide them into logically coherent short paragraphs.
4. Pay attention to details. Be sure to cite your references properly. If you are not sure how to make citations, follow the format used in any journals you are familiar with. Or you can ask the instructor for assistance.