

# CRISPR Term Project

## General Rules for the Project

### A) Teams:

You are to work in teams of two students. Both members of the team are expected to participate equally in the project and will receive the same grade on the project.

### B) Project Requirements:

Each group is required to choose an article from the list of papers in part E), read and understand the article, and:

- a) Perform some of the bioinformatics analyses described in the article.
- b) Prepare a hands-on exercise on the material you covered in part a).
- c) Prepare a PowerPoint presentation (of at least 20 slides) on part a).

Your final project grade will be computed in the following way:

- |                            |                                |
|----------------------------|--------------------------------|
| a) Team Formation: 10%     | b) Progress Report: 20%        |
| c) Class Presentation: 20% | d) Project Report (See D): 50% |

### C) Important Dates:

#### a) Team Formation

Monday, September 17: Each team submits a paper containing the names of the team members.

#### b) Progress Report

Monday, November 5: A progress report by each team is due at the beginning of class. Include the chosen article, the title of the project and all the work you have done so far.

#### c) Project Report

Monday, December 3: Printed copies of the final project are due at the beginning of class (see D). Do not forget to include all pertinent documents. Also, submit a (USB flash drive) containing all the files described in "Submission Requirements" below.

#### d) In-Class Presentation

Monday, December 3: Every team has 10 minutes (5 per student) to present the slides they prepared for the term project.

## **D) Submission Requirements for the Project Report:**

Please include references for any material you have used in the term project, in the presentation and in the hands-on exercise.

### **I) Submit hard copies of:**

- 1) The term project consisting of:
  - i) The cover page with the appropriate fields filled in by you.
  - ii) Table of contents (with page numbers).
  - iii) A 10-page report on your work, including the results of the bioinformatics analyses. Use single space and 12pt font. Please do not include definitions, explanations of topics we have covered in the course and do not simply copy the original articles. Use MS Excel or a similar package to generate tables and graphs. Include screen dumps where appropriate. Do not forget to number pages and to include a list of references.
- 2) Your PowerPoint presentation, 6 slides per page. The PowerPoint presentation should be on the topics you have decided to concentrate on.
- 3) A copy of the Hands-On exercise you have prepared. The Hands-On exercise should be on the topics you have decided to concentrate on.

### **II) Submit a USB flash drive**, labeled with your names, course number and semester, and containing:

- a) The term project (mentioned under 1 above).
- b) The PowerPoint presentation you have prepared.
- c) The Hands-On exercise you have prepared.
- d) Additional articles (in pdf) used in your project.

Please make sure that all the files on the USB key are readable.

## **E) Articles in Canvas to choose from:**

- 1) Bland\_2007.
- 2) Doench\_2014.
- 3) Doench\_2016.
- 4) Hsu\_2014.
- 5) Montague\_2014.
- 6) Wang\_2016.
- 7) Wong\_2015.
- 8) Naito\_2015.
- 9) Obrien\_2014.
- 10) You will find more articles in Ding\_2016, Tycko\_2015, and Yenmalli\_2017, or choose any other article you find appropriate and interesting.