

MGY200H1S An Introduction to Molecular Genetics and Microbiology

Tuesdays and Thursdays 12:10pm-1:00pm

Health Sciences Building, 155 College Street, Rm 610 (HS610)

2018 Syllabus

Jan 4

Course Introduction

1. Prof. Roy- Understanding Patterns of Inheritance

Jan 9

2. Prof. Roy- Understanding Genetic Linkage

Submit (via Survey Monkey) a ranked list of 5 labs in the Department of Molecular Genetics and Microbiology that you would like to write about:

<https://www.surveymonkey.com/r/MGY200H1S2018>

Jan 11

3. Prof. Roy- The Discovery that DNA encodes Genetic Information

Lab assignments for Essay #1 are given out.

Jan 16

4. Prof. Roy- Understanding the Central Dogma (a most beautiful genetic story)

Jan 18

5. Prof. Roy- A Review of Major Molecular Biology Lab Techniques- from sequencing to cloning to sequencing

Essay #1 title and 5 bullet point outline due (worth 1%). 0.5% deduction if handed in late until by Friday Jan 19 at noon. No marks awarded thereafter. Title and bullet points are submitted on 'Blackboard'.

Jan 23

6. Prof. Roy- Understanding mutations, RNAi, and modulation of protein activity with small molecules.

Jan 25

7. Prof. Roy- Understanding Gene Expression Patterns, Cell Autonomy and Cell Non-Autonomy

Jan 30

8. Prof. Taipale- The future is here: Genome Engineering (OMICS 1)

Feb 1

9. Midterm (on lectures 1-7); Location: TBD

Feb 6

10. Prof. Roy- Understanding Genetic Screens, and Genetic Interactions I

Feb 8

11. Prof. Roy- Understanding Genetic Screens, and Genetic Interactions II

Feb 13

12. Prof. Roy- An Introduction to Stem Cells

Feb 15

13. Prof. Roy- Cancer & Stem Cells

Feb 19-23

Reading Week

Feb 27

14. Prof. Taipale- HIV, Ebola, Zika – what’s next?: The emergence and spread of infectious diseases (Microbiology 1)

February 27 at 12:10pm: Essay #1 due.

The e-copy must be submitted to ‘Turn it in’ by February 27th at 12:10pm. The ‘turn it in’ delivery date and time is the official delivery time, but late penalties will also apply should either the e-copy or paper copy be late. The paper copy must be submitted before the beginning of class that day.

‘Turn it in’ e-copy is what will be considered the official copy. If the hard copy differs from the e-copy, the e-copy is what will be marked.

Late deductions (if either the e-copy or paper copy is late):

10% off if submitted late, but by 11:59pm on Feb 27.

20% off if submitted by 5pm Feb 28

30% off if submitted by 5pm March 1

50% off if submitted by 5pm March 2, after which a zero will be given.

March 1

15. Prof. Taipale- Friends and foes: Why only some microbes cause disease (Microbiology 2)

ESSAY #2 (Molecular Genetics Techniques Essay) Title and 5 bullet point outline due (worth 1%). 0.5% deduction if handed in late until by Monday March 5 at noon. No marks awarded thereafter. Title and bullet points are submitted on ‘Blackboard’.

March 6

16. Prof. Taipale- When drugs don’t work: Combating antibiotic resistance (Microbiology 3)

March 8

17. Prof. Taipale- Express yourself: What determines gene expression patterns (Gene expression 1)

March 13

18. Prof. Taipale- Are we there yet?: Posttranscriptional regulation (Gene expression 2)

March 14- Last day to drop S section code courses from academic record.

March 15

19. Prof. Taipale- So you’re a linear chain of amino acids – now what? Protein structure and function (Proteins 1)

March 20

20. Prof. Taipale- Pimping up proteins: Posttranslational modifications (Proteins 2)

March 22

21. Prof. Taipale- Background matters: why mutations affect only some individuals (OMICS 2)

March 27

22. Prof. Bader- Enter the Matrix: Computational Biology Investigation

March 27 at 12:10pm: Essay #2 due.

The e-copy must be submitted to 'Turn it in' by March 27 at 12:10 pm. The 'turn it in' delivery date and time is the official delivery time, but late penalties will also apply should either the e-copy or paper copy be late. The paper copy must be submitted before the beginning of class that day. 'Turn it in' e-copy is what will be considered the official copy. If the hard copy differs from the e-copy, the e-copy is what will be marked. Late deductions (if either the e-copy or paper copy is late):

10% off if submitted late, but by 11:59pm on March 27.

20% off if submitted by 5pm on March 28.

30% off if submitted by 5pm on March 29

50% off if submitted by 5pm on March 30, after which a zero will be given.

March 29

23. Prof. Taipale- Social networks in the cell: protein-protein interactions (OMICS 3)

April 3

24. Prof. Roy- Towards Understanding the Biological Complexity of Humans

April 4

University classes end

April 9-30

Exam period