Course Numbers: Hunter Undergraduate: BIOL47148
Hunter Graduate: BIOL79048

COURSE TIMES:
Tuesday January 28th-Tuesday May 12th 12:45-2:00pm
Thursday February 3rd-Thursday May 14th 12:45-2:00pm
Class is held in Hunter North 926 (69th Street between Park and Lexington)

Professor: Jayne Raper Office: Room 834 Office hours: Wed 9-11am
Phone: 212-396-6644 E-Mail: raper@genectr.hunter.cuny.edu

POLICIES:
EMAIL: Emails will only be answered during working hours Monday-Friday 9am-5pm.

GRADING: Participation and journal presentation 50%. Every journal article that is assigned to class
will require a rubric for dissecting a paper (9 questions) to be answered by each student and
submitted by 12 noon on the Monday BEFORE we meet to discuss the paper that week (usually
Thursday sometimes Tuesday). For every hour that the paper is late 1% of the grade will be
deducted. Each rubric is worth 5% of the course grade. You will be given half term grades.

CLASS PARTICIPATION: Means arriving on time for class, attending every class, reading and
understanding the articles in advance of a given session, contributing regularly to the in class
discussions of the papers.
• You should be able to state what the hypotheses were for the beginning the work described in
  the papers.
• You should be able to discuss the techniques used.
• You should be critical of data interpretation and think of alternative explanations and
  experiments.

LIBRARY: There will be a MANDATORY LIBRARY RESEARCH SEMINAR E404 of library. This will
educate you in the search for scientific research literature.

READINGS: All of the required papers will be available from course documents section of the course
blackboard site.

STUDENT JOURNAL CLUB PRESENTATION (TUESDAYS): You will be assigned a primary
research paper (such as paper found in PLoS Pathogens see link for examples
http://www.plospathogens.org/). You will present the paper to the class using power point and the
white board. In your presentation you should:
• include background on the pathogen and the disease it causes.
• Include explanatory slides on ALL METHODS used prior to each figure.
• Show all data.
• Discuss limitations and pitfalls of the data.
RESEARCH SEMINARS (TUESDAYS and THURSDAYS): An author of the paper presented by the student(s) on the prior class will come and give an update on the research area and answer any queries that arose during the journal club presentation.

EXAMS: Exam/homework dates will not be changed and must be turned in on time for a final grade.
1. Entrance and Exit vocabulary exam (NOT GRADED) to assess knowledge level of students.
2. Homework, RUBRIC, due every week MONDAY 12 NOON.

WITHDRAWL: For a grade of “W” the OFFICAL WITHDRAWAL deadline this semester is THURSDAY April 24th 2015

The objective of this course is to familiarize students with an integrative approach to host-microbial interactions. Recent developments in the genetics and physiology of pathogens as well as in the immune response of the host make microbial pathogenesis a very exciting field of research. We will cover Viruses, Bacteria, Fungi and Parasites.

The student learning goals for this course are:
1. To develop skills in searching for and critically analyzing primary literature
2. Understand basic methods of experimental design and hypothesis testing
3. Understand the role of experimentation in biology
4. Gain knowledge of the molecular arms race between microbes and host
5. To learn new vocabulary

SYLLABUS MAY BE SUBJECT TO CHANGE

January 29th, Thursday: Vocabulary exam

February 3rd, Tuesday: Host- Pathogen Interactions 101

February 5th, Thursday: Immunology 101

February 10, Tuesday: Library session

February 12, Thursday – NO class college closed

February 17, Tuesday – How to present a paper

February 19, Thursday – CLASS group paper presentation

February 24, Tuesday –No class follows MONDAY schedule

February 26, Thursday -Student Journal club (1)
March 3, Tuesday - research seminar Kirk Deitsch Malaria

March 5, Thursday Student Journal club (2)

March 10, Tuesday - research seminar Chandrabali Gosh Clostridium Difficile

March 12, Thursday - Student Journal club (3)

March 17, Tuesday - research seminar Joey Verdi Leishmania/ African trypanosomes

March 19, Thursday - Student Journal club (4)

March 24, Tuesday - research seminar Ana Rodriguez Trypanosoma cruzi

March 26, Thursday - Student Journal club (5)

March 31, Tuesday – research seminar Jane Carlton Trichomonas vaginalis

April 2, Thursday –How to present a research paper review

April 3-12 Spring Break NO CLASSES

April 14, Tuesday - Student Journal club (6)

April 16, Thursday- research seminar Bill Golde Foot and Mouth Virus

April 21, Tuesday - Student Journal club (7)

April 23, Thursday – research seminar Ian Mohr Herpes Virus

April 28, Tuesday Student Journal club (8)

April 30, Thursday - research seminar Andrew Darwin Yersinia Pestis

May 5, Tuesday Student Journal club (9)

May 7, Thursday - research seminar Luciano Marraffini Crispr/Cas

May 12, Tuesday – Student Journal club (10)

May 14, Thursday- research seminar Josh Nosanchuk Cryptococcus neoformans

May 18-22 Exam week exit vocab test and take home Grant example due May 22.
COLLEGE NOTICE: Hunter College regards acts of academic dishonesty (e.g. plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offences against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

Rubric for dissecting a paper- DUE EVERY MONDAY 12 NOON

1. What is the context of the paper-background
2. Summarize big picture aspect-impact
3. What is the central hypothesis to be tested
4. FOR each figure-what are the conclusions based upon?
5. What are the controls used in each figure?
6. What is WRONG with the data/interpretation?
7. What experiment would you do to check?
8. What are the major conclusions/results
9. What other experiments do the authors propose?

Taken from Ellis Bell: Biochemistry and Molecular Biology Education, Vol 39, 10-16, 2011

Tips for time management for presentations 12:45-2:00pm (70 minutes):

• Ten-fifteen background slides ONLY
• ONE statement of hypothesis slide
• Begin discussion of first figure of paper by 12:05 pm at latest
• Alternate figures with presentation partner
• Add question slides for the class
• 50 slides total
• Read the presentation guide from ABRCMS