Virology (BISC 306)

Spring Semester 2019

12:00 noon– 12:50 am M-W-F  Bishop 219

Instructor: Wayne L. Gray, PhD.  wlgray@olemiss.edu

Office- Shoemaker Hall Room 310

Course Description: This course introduces basic principles and concepts of virology.

Course Objective: Upon completion of the course students are expected to know and understand the following aspects of virology:

- virus structure
- virus replication
- viral pathogenesis and disease
- diagnosis and treatment of human, animal, and plant viral diseases
- prevention and control of viral diseases including vaccines

This objective will be achieved through attending and actively participating in class lectures, reading course materials, and performing successfully on examinations.

A goal of the course is to enhance student learning through oral and written communication, reasoning and critical thinking through data analysis, and ethical reasoning.

Prerequisites- Grade of a C or better in BISC 160, BISC 161, BISC 162 and BISC 163.


Dr. Gray’s office hours: Tuesday 9:00 – 10:00 am and Thursday 4:00- 5:00 pm (no appointment necessary). If you cannot meet during scheduled office hours, you can make an appointment by email. Please include the following: (1) Virology or BISC 306 in the subject line, and (2) what you would like some help with in the main text of the email.

In-Class Policies: Regular class attendance is expected. Cell phone use and texting is not permitted, and cell phones must be turned off during class. Use of laptop computers for note-taking is fine, but it is not appropriate to be facebooking, twitting, or sending emails, etc.

Turning Technologies Response Cards (Clickers)- Clickers or I-phone will be used as an optional extra-credit class participation grade. Most classes will include 3-4 clicker questions. Your final class participation grade will depend on the number of correct answers during the semester and will count much as 20% of your final grade. You must register your Response Card on Blackboard. It is the student’s responsibility to correctly register and maintain the clicker (I-phone). Bring your fully charged card to every class. Using another person’s card is serious academic misconduct and will be reported to the University Academic Discipline Committee. Violation will also result in loss of participation points and possible expulsion from the course.
Blackboard: You are assigned a Web ID and Password for access to online resources including Blackboard, the UM course management system (https://blackboard.olemiss.edu). Course announcements, Power Point slides, study materials, grades, and other course information will be posted on a regular basis. You should consult Blackboard daily for important class messages.

Exams and Grading: There will be four exams including the final exam. Each of the 4 exams will consist of 40 multiple choice questions for a total of 160 points. A final grade is calculated based on total points earned out of a possible 160 points.

The optional class participation grade will count as an additional exam and you may earn up to 40 points based on the total number of questions you get correct during the semester. These extra credit points are added to your exam 1-4 total score and a final grade is calculated based on total points earned out of a possible 200 points. Your final course grade will be determined based on the higher final grade calculated with or without the class participation grade.

Bring your student ID, #2 pencil, and a Scantron form # F-289 to every exam. The Scantron form # F-289 (red print) can be purchased at the Bookstore in the Student Union. No electronic devices are allowed to be turned on during exams. If you suspect that a question was graded improperly, you have one week from the date of test return to contact me.

<table>
<thead>
<tr>
<th>Final Grading Scale</th>
<th>Grade</th>
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<tbody>
<tr>
<td>92.5 and over</td>
<td>A</td>
</tr>
<tr>
<td>89.5 to 92.49</td>
<td>A-</td>
</tr>
<tr>
<td>87.5 to 89.49</td>
<td>B+</td>
</tr>
<tr>
<td>79.5 to 87.49</td>
<td>B</td>
</tr>
<tr>
<td>77.5 to 79.49</td>
<td>C+</td>
</tr>
<tr>
<td>69.5 to 77.49</td>
<td>C</td>
</tr>
<tr>
<td>59.5 to 69.49</td>
<td>D</td>
</tr>
<tr>
<td>0 – 59.49</td>
<td>F</td>
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</tbody>
</table>

Final grade thresholds may be adjusted downward (i.e., only in your favor), depending on overall class performance. However, I generally stick with this grade scale since there is a generous extra-credit policy.

Make-up exams- Valid reasons for missing an exam are very limited and include medical or family emergency or University-sanctioned events. Depending on the circumstances, a student may or may not be allowed to make-up an exam. To be eligible to make up an exam:

1) You must notify Dr. Gray by email or in person immediately, preferably prior to the exam, but at most, 24 hours after the exam.
2) Documentation for an excused absence may be required.
3) Upon receiving an excused absence, a make-up exam will be scheduled, within 1-2 days.
4) The format of the make-up exam will be multiple choice, short answer, oral, and/or discussion.
5) Unexcused absence for a missed exam results in a grade of zero.

Virology/Biology in the News: On a regular basis, brief overviews of current topics in the news concerning virology, microbiology, or biology will be discussed in class or will be posted on Dr. Gray’s twitter account- @wgrayvirologist. Dr. Gray will inform you whether this material will be covered on exams.
Special Needs: Reasonable accommodations will be made for students with disabilities that may affect their ability to participate in the course or meet course requirements. The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact Dr. Gray as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are approved through SDS, you must log in to your Rebel Access portal at https://sds.olemiss.edu to request approved accommodations. If you are NOT approved through SDS, you must contact Student Disability Services at 662-915-7128 so the office can: 1. determine your eligibility for accommodations, 2. disseminate to your instructors a Faculty Notification Letter, 3. facilitate the removal of barriers, and 4. ensure you have equal access to the same opportunities for success that are available to all students.

Academic Misconduct: Academic dishonesty and cheating of any kind is not tolerated. Procedures for handling academic misconduct are described in the UM Policy Code ACA.AR.600.001. Penalties include, but are not limited to, taking a 0 on an exam and/or expulsion from the course.

Keys to Success in this Course:

- read the PowerPoint slides and textbook, preferably before coming to class
- attend class- listen, take notes, ask questions
- keep up with the material- don’t put off studying until the night before the exam

contact Dr. Gray if you need additional help
BISC 306 Virology (M-W-F- 12:00 - 12:50 pm, Bishop Room 219)

Dr. Wayne Gray, PhD.

Spring 2019

Wednesday, Jan. 23 – Introduction to viruses- morphology, genomes, classification

Friday, Jan. 25 - Bacteriophages

Monday, Jan. 28 – Eukaryotic cell and virus replication overview

Wednesday, Jan. 30 - Virus replication, DNA viruses

Friday, Feb. 1 – Virus replication, RNA viruses

Monday, Feb. 4 - Viral pathogenesis

Wednesday, Feb. 6 – Viral pathogenesis

Friday, Feb. 8 - Viral lab diagnosis, Review

Monday, Feb. 11- **Exam #1  Bring Scantron form F-289**

Wednesday, Feb. 13 – Viral immunology I

Friday, Feb. 15 - Viral Immunology II- viral vaccines

Monday, Feb. 18 - “Vaccine War”- PBS documentary

Wednesday, Feb. 20 - Paroviruses

Friday, Feb. 22 - Adenoviruses

Monday, Feb. 25 - Herpesviruses I- HSV, VZV

Wednesday, Feb. 27 – Herpesviruses II- CMV, EBV, KHV

Friday, March 1 - Poxviruses

Monday, March 4 – Hepatitis viruses I

Wednesday, March 6 – Hepatitis viruses II, Review

Friday, March 8- **Exam # 2  Bring Scantron form F-289**

**MWF, March 11 – 15 Spring Break**

Monday, March 18 - Positive polarity RNA viruses- Picornaviruses

Wednesday, March 20 – “The Polio virus story” PBS documentary

Friday, March 22- Negative polarity RNA viruses- Rabies virus
Monday, March 25 - Paramyxoviruses I - Measles, Mumps, RSV
Wednesday, March 27 - Paramyxoviruses II - Measles, Mumps, RSV
Friday, March 29 - Influenza I
Monday, April 1 - Influenza II
Wednesday, April 3 - Arboviruses - West Nile Virus, Zika Virus, Yellow Fever Virus
Friday, April 5 - Arboviruses Yellow Fever Virus - “The Great Fever” PBS documentary
Monday, April 8 - Review
Wednesday, April 10 - Exam # 3 Bring Scantron form F-289
Friday, April 12 - GI viruses - Rotaviruses, Noroviruses
Monday, April 15 - Cancer virology I - DNA tumor viruses, HPV, EBV
Wednesday, April 17 - Cancer virology II - RNA tumor viruses
Friday, April 19 - Good Friday - No class
Monday, April 22 - HIV, AIDS
Wednesday, April 24 - HIV, AIDS
Friday, April 26 - Filoviruses, Ebola
Monday, April 29 - Prions, slow virus diseases
Wednesday, May 1 - Plant viruses
Friday, May 3 - “Virus evolution” documentary

Final Exam on Friday, May 10, at 12:00 noon, Bring Scantron form F-289.