

Phage Hunters Advancing Genomics and Evolutionary Science (PHAGES)
Introductory Biology Research Laboratory II – Spring 2016
BIOL 1755.501, MW 1:00-2:50pm and other times as needed
BIOL 1755.502, MW 4:00-5:50pm and other times as needed

INSTRUCTORS: **Dr. Lee Hughes**
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Textbook: **“SEA-PHAGES Laboratory Manual” by the Howard Hughes Medical Institute and DNA Master Annotation Guide**
(these manuals provided to students for use during the course)

PHAGES Laboratory Courses:

This is the second course of a two course sequence (BIOL 1750 for 2 SCH in the first semester and BIOL 1755 for 1 SCH in the following semester) in which research activities on bacteriophage genomics will be conducted. These two laboratory courses will serve as replacements for the normal BIOL 1760 laboratory in your major and may also be used as a Discovery course in the UNT core curriculum.

Due to the nature of experimental research, the course syllabus for this laboratory will be flexible.

Attendance is required at all scheduled laboratory meetings and **on-time arrival** is critical (three tardies will equal one absence in grading). As well, students should expect to attend **additional open laboratory times** as needed each week depending on the progress of their particular phage projects.

Laboratory Goals:

The goals for the spring semester include the following:

- Each student will learn to use the bioinformatics tools necessary to finish and annotate bacteriophage genomes.
- Each student will complete a positional and functional annotation of previously uncharacterized bacteriophage genomes.
- Each student will be able to explain and justify their annotations to their classmates and, as a group, reach consensus on the final annotations of complete bacteriophage genomes.
- The class as a whole will prepare annotated bacteriophage genomes for submission to GenBank.
- The class as a whole will assist in preparation of a poster about the annotated genomes for presentation to outside audiences.
- Each student will prepare a written report describing their annotations and any additional experimental research conducted during the course.

STUDENTS WITH DISABILITIES:

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that

students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940-565-4323.

GRADING:

Your course grade will consist of the following elements:

- 12% Attendance (4% subtracted per absence or 3 tardies; more than 3 absences may result in failure of the course)
- 36% Laboratory Notebooks (daily checks)
- 12% Concept Quizzes (3 x 4% each, will be announced 1 class meeting in advance)
- 25% Project Reports and Presentations on annotation work and other research projects (number and due dates will vary)
- 15% Poster presenting your work to date (due February 19)
- 100% Overall % Grade (*Letter grades will be assigned on a typical scale: 90+=A, 80-89=B, 70-79=C, 60-69=D, <60=F*)

TENTATIVE LABORATORY SCHEDULE

BIOL 1755 – Introductory Biology Research Laboratory II

Due to the unpredictable nature of the genome analysis aspects of this course, a specific timeline for most course activities cannot be determined in advanced. The schedule below is an overview of the major events of the course. Specific readings and assignments will be given at each class meeting.

<u>Meeting</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u>
1	Jan. 20	Orientation to “In Silico” course organization	“Before You Start - Again”
2	Jan. 25	Begin “Analyze” section of course	Analyze Part A and Part B
	TBA	Begin “Discover” section of course	TBA
	Feb. 22	Poster Presentation Due	
	Mar. 14 & 16	No meeting – Spring Break	
	TBA	Begin “Share” section of course	TBA
	May 2	Final Reports Due	
	May 4	Last Class Meeting	

Other Dates of Importance:

March 11, 2016 – Applications for posters and papers due for University Scholars Day

March 18, 2016 – Submission due for Texas Branch-American Society for Microbiology Spring Meeting

March 31- April 2, 2016 – Texas Branch-American Society Microbiology Spring Meeting, New Braunfels, TX

April 20, 2016 – University Scholars Day

June 10-12, 2016 – SEA-PHAGES Symposium, Ashburn, VA