

## BIO 390.002/PHY 320.002 Mysteries of DNA – Spring 2015

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Lecture: MWF 11:00 – 11.50, SEB 143

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Office Hours: By appointment

Mysteries of DNA an interdisciplinary biophysics course with an emphasis on the history behind the discovery of the DNA double helix and the use DNA in novel research. This course is designed to introduce students to comprehend, present, and produce science literature. Students will be evaluated through means of quizzes, papers, presentations, and short labs.

Pre-requisites: PHY 141 or PHY 161, BIO 212

Required textbooks:

- i) *The Double Helix: A personal account of the discovery of the structure of DNA* by James Watson
- ii) *Rosalind Franklin and DNA* by Anne Sayre

### Grading

The course grade is based on your performance on participation, eight quizzes (ten total, two dropped), three short reflection papers, two group presentations, two short labs, and a review paper.

The maximum possible score in BIO 390.002/PHY 320.002 is 1000 points (100%). There will be no extra credit. The points are distributed as follows:

Participation: 50 points (05%)  
Two 30-point short labs: 60 points (06%)  
Eight 30-point quizzes: 240 points (24%)  
Three 100-point short papers: 300 points (30%)  
Two 100-point presentations: 200 points (20%)  
Review paper: 150 points (15%)

Attendance is mandatory. You can miss three class periods without being penalized. After three missed classes, 10 points will be taken off for each class missed.

Short papers are reflection papers on a documentary and two books. Papers should be between 500 – 700 words, single spaced, Times New Roman point 12 font, justified on both sides, and with 1-inch margins.

Presentations will be done in groups of two. Both group members will get the same grade for the presentation. Your instructor and your classmates will be grading each presentation, where the instructor's score will count towards 70% of the presentation grade.

The review paper should be 4-5 pages long, single spaced, excluding figures and references. It should be Times New Roman point 12 font, justified on both sides, and with 1-inch margins.

Grades:

A (90 and above), B+ (87 - 89), B (80 - 86), C+ (77 - 79), C (70 - 76), D (60 - 69), and F (below 60.00)

General Education Courses: The College of Liberal Arts is keenly interested in assuring the quality and integrity of its General Education Program. Every semester, randomly-selected students from each General Education course will be required to submit samples of their work to an independent and objective assessment by faculty. No personally identifiable information about any student will be used for the purposes of this assessment, and assessment results will have no bearing whatsoever on student grades.

Attendance Policy: Attendance is mandatory. Students are solely responsible for learning the materials covered in the missed classes.

Class Etiquette: You are expected to conduct yourself in a respectful manner to your fellow classmates and the instructor. The instructor may ask you to leave the classroom/lab if your behavior is disturbing to the instructor or other students.

Honor Code: You are bound by the Mercer honor code. The College's academic misconduct policy will be followed. All work, for which a grade is received, must be the original work of the student without aid or assistance of another party, or any printed and or electronic data/information. Academic misconduct cases will be referred to the honor council and the student will automatically receive a grade of incomplete (I) pending a ruling by the honor council.

Documented Disability Statement: Students requiring accommodations for a disability should inform the instructor at the close of the first class meeting or as soon as possible. The instructor will refer you to the Disability Support Services Coordinator to document your disability, determine eligibility for accommodations under the ADA/Section 504 and to request a Faculty Accommodation Form. Disability accommodations or status will not be indicated on academic transcripts. In order to receive accommodations in a class, students with sensory, learning, psychological, physical or medical disabilities must provide their instructor with a Faculty Accommodation Form to sign. Students must return the signed form to the Disability Services Coordinator. A new form must be requested each semester. Students with a history of a disability perceived as having a disability or with a current disability who does not wish to use academic accommodations are also strongly encouraged to register with the Disability Services Coordinator and request a Faculty Accommodation Form each semester. For further information, please contact Carole Burrowbridge, Disability Services Coordinator, at 301-2778 or visit the Disability Support Services website at <http://www.mercer.edu/studentaffairs/disabilityservices>.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday/ Sunday
Week 1 Jan 12 - 18	Jan 12 First day of classes	13	14	15	16	17 18
Week 2 Jan 19 - 25	19 MLK Jr. holiday No class	20	21	22	23 Quiz #1	24 25
Week 3 Jan 26-Feb 01	26 ✿	27	28 ☺	29	30 Quiz #2	31 Feb 01
Week 4 Feb 02 - 08	02	03	04 Founder's Day Short Paper #1 due	05	06 Quiz #3	07 08
Week 4 Feb 14 - 15	09 ✿	10	11 ☺	12	13 Quiz #4 Short lab #1	14 15
Week 5 Feb 16 - 22	16 ✿	17	18 ☺	19	20 Quiz #5	21 22
Week 6 Feb 23-Mar 01	23 ✿	24	25 ☺	26	27 Quiz #6	28 Mar 01
Week 7 Mar 02-08	02 ✿	03	04 ☺	05	06 Short Paper #2 due	07 08
Week 8 Mar 09-15	09 Spring Break	10 Spring Break	11 Spring Break	12 Spring Break	13 Spring Break	14 15
Week 9 Mar 16-22	16 ✿	17	18 ☺	19	20 Quiz #7	21 22
Week 10 Mar 23-29	23 ✿	24	25 No class	26 Last day for Withdrawal	27 No class Short Paper #3 due	28 29
Week 11 Mar 30-April 04	30 ☺	31	April 01 Quiz #8 Short lab #2	02	03 Good Friday No class	04 05
Week 12 April 06 - 12	06 ✿	07	08 ☺	09	10 BEAR Day No class	11 12
Week 13 April 13 - 19	13 ✿	14	15 ☺	16	17 Quiz #9	18 19
Week 14 April 20 - 26	20 ✿	21	22 ☺	23	24 Quiz #10	25 26
Week 15 April 27-May 03	27	28	29	30	May 01 Last day of classes	02 03
Week 16 May 04 - 10	04	05	06	07 Review Paper Due 9 am – 12 pm	08	09 10

✿ DNA-to-the-rescue presentation

☺ Research paper presentation