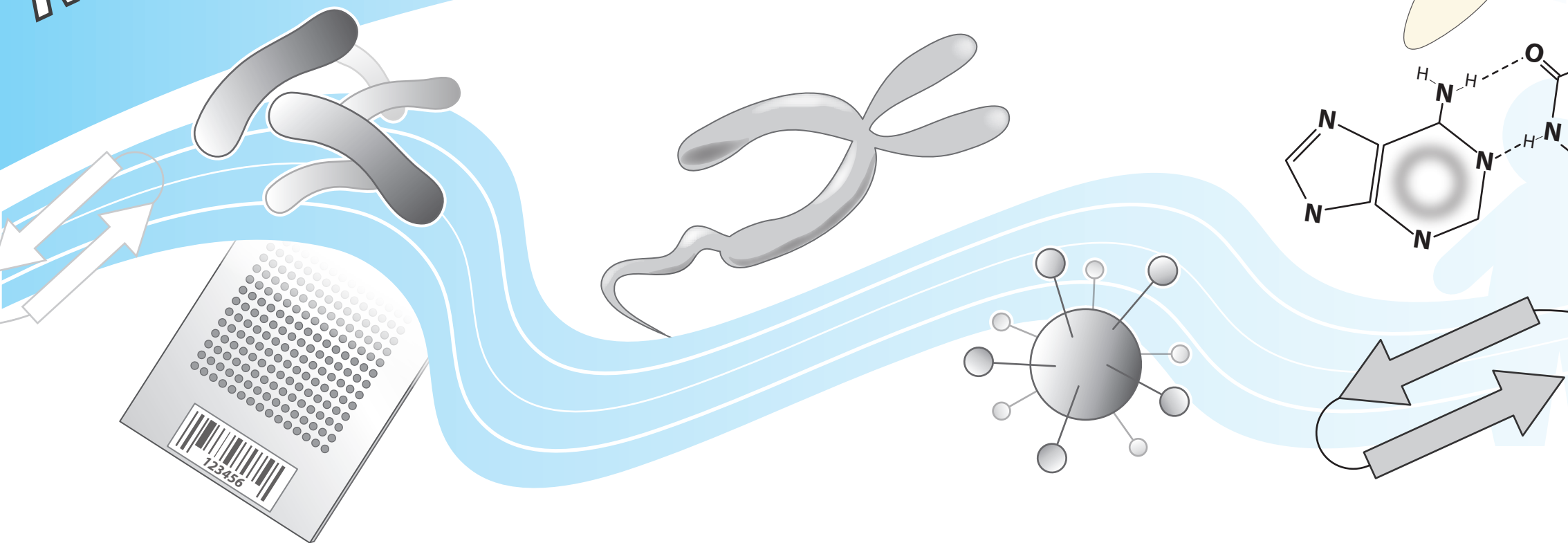


Spring 2019 - BIOL312

# Molecular Biology - Lectures



**Instructor:** Dr. Renaud Geslain

**Office:** Rita 121

**Tel:** (843)-953-8080

**email:** geslainr@cofc.edu

## Lectures

Tuesday and Thursday

8:00 - 9:15 am

Rita 101

## Office hours

Thursday 1:45 - 2:45 pm

or by appointment

I am always happy to help!

## Required textbook



### **Molecular Biology of the Gene**

By Watson, Baker, Bell, Gann, Levine and Losick  
Seventh edition

Pearson

The text is also available as an ebook

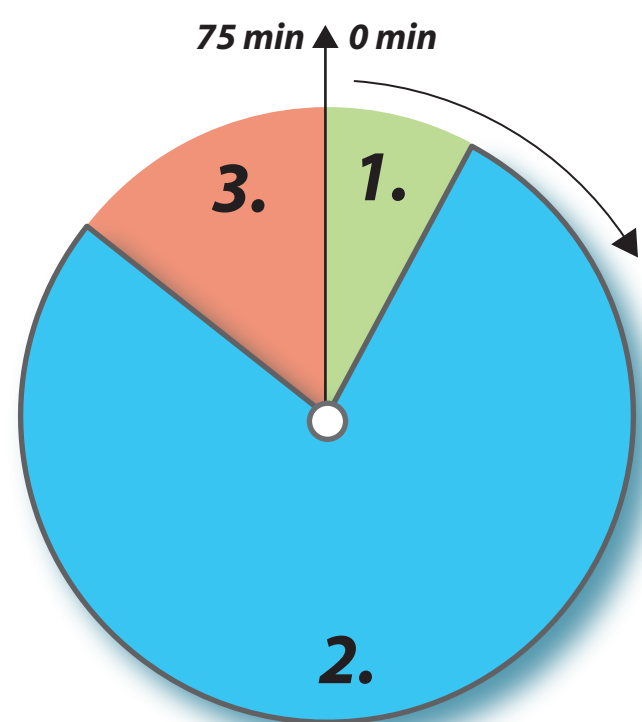
Thank you for choosing this class of molecular biology.

## **Learning outcomes:**

Upon completion of this course you will be able to:

- Understand in details and at the molecular level, the synthesis, structure, and function of nucleic acids and proteins in prokaryotes and eukaryotes.
- Remain abreast of the most recent advances in molecular biology.
- Write, discuss or critique about recent advances in molecular biology and their impact on society, individually or in groups.

## **Structure of the lectures:**



- 1.** summary of the previous lecture
- 2.** current lecture
- 3.** Molecular Biology in the news - mini debate or mini-lecture on molecular biology techniques

## **Academic conduct:**

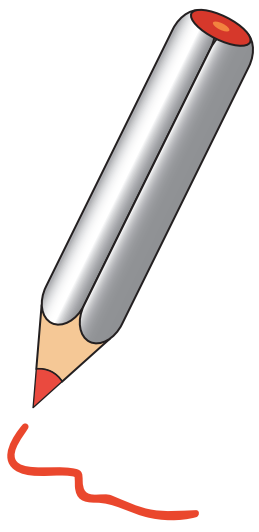


This course adheres to the Academic Integrity Policy at the College of Charleston. Punctuality is essential. Respect for the instructor and for your fellow classmates is expected. Violation of the academic honor code may result in an XXF in the course (please see below for details).

## **Attendance:**

Lecture attendance is strongly encouraged. Complete the assigned reading before coming to class. There will be material covered that is not in your textbook and you will be tested on it. Lecture slides and summaries will be posted on OAKS.

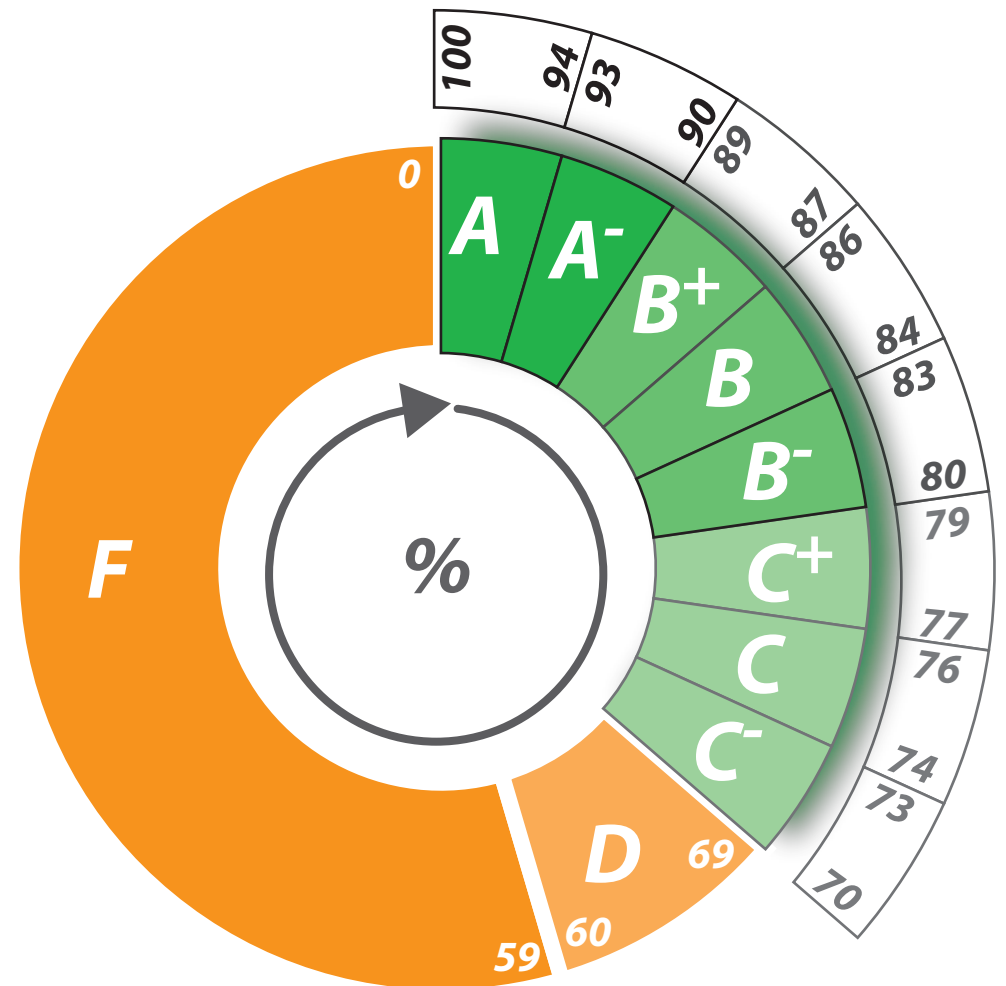
## Course evaluation:



Exam#1	100 pts
Exam#2	100 pts
Exam#3	100 pts
<hr/>	
Quiz#1	20 pts
Quiz#2	20 pts
Quiz#3	20 pts

Exams and Quizzes: there will be 3 exams (2 midterms + 1 cumulative final exam) and 3 in class quizzes during the semester. If you have a legitimate excuse to miss an exam or quiz please see me ahead of time. Missing an exam or quiz without an acceptable excuse will result in a grade of zero.

## Grading scale:

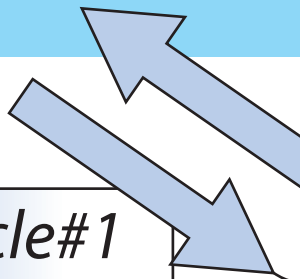
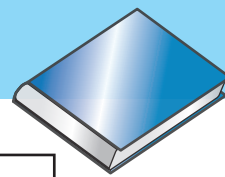


## Tips for success in this course:



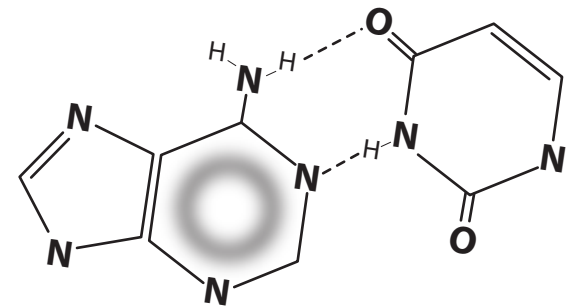
- Check **OAKS** on a regular basis, this is where I post my lecture slides as well as all important information.
- **Read** the assigned readings.
- Don't be afraid to **ask questions**. I welcome questions before, during, and after class.
- As we progress through the course, try to build on the information presented in the previous lectures. This will help you to **build "the big picture"** of the key concepts and scientific principles that are used in molecular biology.

# Lecture schedule



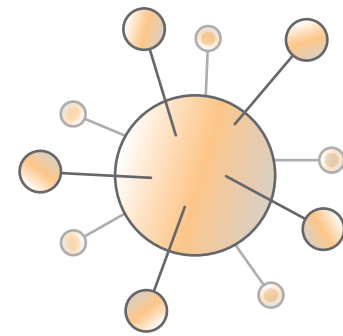
How much do you know about molec?	Jan 08
Structure of DNA	Jan 10
Structure of RNA	Jan 15
Structure of protein	Jan 17
Nucleosome and chromatin	Jan 22
ST#1: Pathogenic organisms	Jan 24
ST#2: GMOs	Jan 29
Review + <b>Quiz#1</b>	Jan 31
<b>Exam#1</b>	Feb 05

- 4 *news article#1*
- 5 *news article#2*
- 6 *news article#3*
- 8 *news article#4*



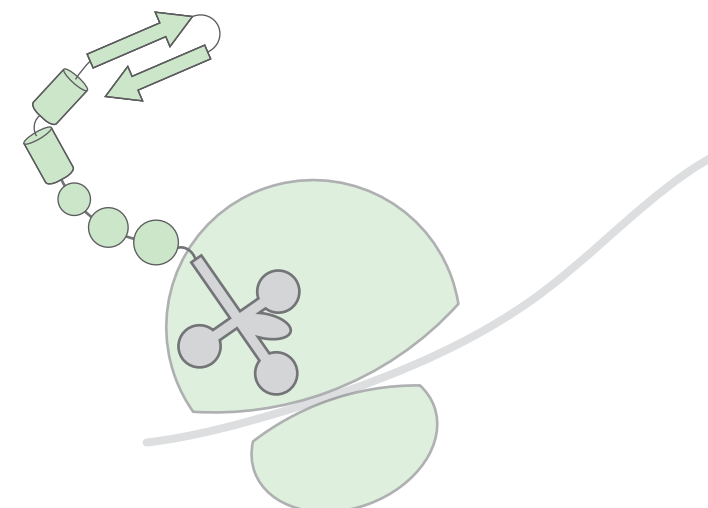
Replication	Feb 07
Transcription	Feb 12
Splicing and modifications	Feb 14
Translation apparatus	Feb 19
Translation mechanism	Feb 21
ST#3: Biology of cancer	Feb 26
ST#4: Drug development	Feb 28
Review + <b>Quiz#2</b>	Mar 05
<b>Exam#2</b>	Mar 07

- 9 *news article#5*
- 13 *news article#6*
- 14 *news article#7*
- 15 *news article#8*
- 15 *news article#9*



Translation regulation	Mar 12
Transcription regulation prok.	Mar 14
Transcription regulation euk.	Mar 26
Regulatory RNAs	Mar 28
ST#5: DNA forensic	Apr 02
ST#6: Model organisms	Apr 04
ST#7: CRISPR, genome editing	Apr 09
Molecular art exhibition	Apr 11
<b>Quiz#3</b>	Apr 16
<b>Exam#3 Final</b>	Apr 18

- 15 *news article#10*
- 18 *news article#11*
- 19 *news article#12*
- 20 *news article#13*



ST = special topic

## ***College of Charleston Honor Code and Academic Integrity:***

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor. Students can find the complete Honor Code and all related processes in the Student Handbook at:

<http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

## ***Important dates:***

Last day to drop/add	January 14
Midterm grades available	March 8
Last day to withdraw with a "W"	April 9

## ***Center for Student Learning:***

I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies, speaking & writing strategies, and course content. They offer tutoring, Supplemental Instruction, study strategy appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843)953-5635.

## ***Center for Disability Services:***

(<http://disabilityservices.cofc.edu/for-faculty/faqs.php>)

- Any student eligible for and needing accommodations because of a disability is requested to speak with the professor during the first two weeks of class or as soon as the student has been approved for services so that reasonable accommodations can be arranged.
- The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed.
- This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services/SNAP, 843.953.1431 or me so that such accommodation may be arranged.