MOLECULAR BIOLOGY I: NUCLEIC ACID METABOLISM
SC/BIOL 3110, 2019 S1

COURSE DIRECTOR: Dr. Peter Cheung
Life Sciences Building, Rm 331A
yorkubiol3110@gmail.com
416-736-2100 x 31322

LECTURES: Mon and Wed, 10 AM – 1 PM, CLH D

LECTURE SLIDES: Lecture slides will be posted on Moodle the night before class is given.

TEXTS: No specific text required.

Optional: Molecular Biology of the Gene, 7th Ed
J.D. Watson and others
A copy of this text book is on reserve at Steacie Library

T.A. Brown
http://www.ncbi.nlm.nih.gov/books/NBK21128/

GRADING: Two midterm tests: 25% of overall mark each
Final Exam: 50% of overall mark

The final exam is cumulative but weighted. Each section will end up having equal representation over the 3 exams.

IMPORTANT DATES: First midterm: May 13th, 2018
Second midterm: May 29th, 2018
Final exam: TBD

EXAM FORMAT: Exams will be in multiple-choice format.
Always read the questions carefully and choose the BEST answer.

EMAIL CONTACT: Questions requiring short answers can be asked via email up to 24 hours before a midterm or final. Please only send email questions to: yorkubiol3110@gmail.com.

EMAIL ETIQUETTE: When sending emails, please include your name – Gmail doesn’t know how to translate your email address to your name
OFFICE HOURS: Office hours are between 2 – 4 PM on Thursdays at my office (Rm 331A, LSB). Students should email in advance and call my office number to arrange entry onto the 3rd floor of LSB. Students are encouraged to contact me only at the regular office hours, or immediately before or after classes.

CLASS FORUM: I will set up a class discussion forum on Moodle. It is open to all students in class and is meant for you to post questions or requests to one other. As the course director, I will NOT participate in the forum discussions. Any lecture-related questions for me should be asked by email (see above) or in person before, during, or after class.

EXPECTATIONS: Student attendance in classes is EXPECTED and ALL in-class material (including verbal and extra information written on the blackboard) are considered testable material in the midterm and final exams.

GENERAL COURSE POLICIES:

1. If you miss a midterm exam with a legitimate documented reason, documentation must be submitted to me (Dr. Cheung) in order to avoid receiving a grade of zero on the exam. Please fill out the absence form and append a detailed and official doctor’s note (i.e. not simply a form stating the student visited a clinic) using the online submission system: http://science.apps01.yorku.ca/machform/view.php?id=84113

2. In the event of one missed midterm with a valid documented reason, the weight of this midterm will be distributed evenly between the other midterm and the final exam. No makeup exam will be available for midterms. In the event of a missed final exam with a valid, documented reason (where both midterms have been written), a deferred final exam will be offered. In the event that a student misses more than one exam with valid documented reasons (two midterms, a midterm and a final, or all three exams), the student will be required to petition in order to take the deferred final exam.

3. In order to be fair and consistent to the entire class, individual grades are not negotiable. Contact me about marks ONLY if there is a clear error in your mark (calculation, clerical, etc.) as soon as possible at yorkubiol3110@gmail.com.

4. Students are allowed to record lectures using their own voice recording devices. However, taking pictures or video recording of lecture slides or exam questions discussed in class will NOT be allowed.
TOPICS COVERED:

1. DNA basics: history, chemical composition and physical properties of nucleic acids
2. RNA structures and functional RNAs
3. DNA topology and topoisomerases
4. DNA synthesis and replication
5. Methods for studying DNA and molecular biology techniques
6. Genome organization/packaging of prokaryotes and eukaryotes
7. Organization, dynamics and regulation of interphase genomes
8. Regulation of genome replication
9. Chromatin and histone modifications
10. Epigenetics and regulation of gene expression

TOPICS WILL BE COVERED IN THESE CHAPTERS AND OTHER SOURCES:

Molecular Biology of the Gene, 7th Ed: Chapters 2, 4, 5, 7, 8, 9

GENOMES 2: Chapters 1 – 11

LEARNING OUTCOMES:

Upon successful completion of this course, students should be:

- Knowledgeable in nucleic acids-related properties and concepts
- Knowledgeable in DNA-based genomes and how genomes are organized
- Knowledgeable in how genome organization impacts on various biological processes and functions
- Knowledgeable in experimental techniques, and interpretation of results
- Appreciative of the experimental nature of scientific discoveries
- Able to apply knowledge and critical thinking in exams
UNIVERSITY POLICIES:

1. Students who do not write the final exam, but have completed both midterms must contact me for permission to write a deferred exam (i.e. sign the Deferred Standing Agreement form). It is Senate Policy that "Normal requests for deferred standing must be communicated within one week following a missed examination, or on the last day to submit course work". Please check out the Registrar’s Office Deferred Standing FAQs (http://www.registrar.yorku.ca/services/ds_faq.htm) for more details. Students who have missed more than one exam will be required to petition to write a deferred final exam.

2. University policy, procedures and regulations on Academic Honesty/Integrity, Access/Disability, Student Conduct, Religious Observance Accommodation, etc. are available on the Committee on Curriculum and Academic Standards (CCAS) website http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm. Students will be held accountable to all policies and regulations on academic standards listed at this site.

3. York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University. Student's in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

4. Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/