Department of Biology Course Outline

Course Number, Course Name
Term, Year

Course Description

Discussion of the metabolism of DNA and RNA, including the physical-chemical properties of nucleic acids; DNA-protein interactions; chromosome structure; nucleic acid replication, repair and recombination; recombinant DNA technology. Three lecture hours. One term. Three credits.

Prerequisites (strictly enforced)

One of the following: (1) SC/BIOL 2020 4.00 or SC/BCHM 2020 4.00; SC/BIOL 2021 4.00 or SC/BCHM 2021 4.00; SC/BIOL 2040 4.00; (2) if the three credit course is taken in either one or more of SC/BIOL 2020, SC/BIOL 2021, SC/BIOL 2040, then SC/BIOL 2070 3.00 is required.

Course Instructor(s) and Contact Information

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

Schedule

Lectures: Tues and Thurs, 10:00 AM – 11:30 AM, LAS A

Office Hrs: Thurs, 2:00 PM – 4:00 PM, LSB Rm 331A

Evaluation

Two midterm tests worth 25% of overall mark each

Final exam worth 50% of overall mark

Final exam is cumulative but weighted

Exams will be in multiple-choice format

Important Dates

Midterm 1: Oct 4th, 2018

Midterm 2: Nov 8th, 2018

Final exam: TBD

Drop Deadline: Fri. Nov. 9, 2018 (last day to drop without course on transcript)
Course Withdrawal: Sat. Nov. 10 to Dec. 4, 2018 (course still appears on transcript with 'W")

Resources

No specific text required

Lectures notes will be posted on Moodle AFTER delivery of lecture

A discussion forum will also be set up on Moodle for students to communicate with one another and to discuss course material. The course director will NOT participate in the forum discussions. Any specific questions for the course director should be directly emailed to yorkubiol3110@gmail.com

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

Course Content

TOPICS COVERED INCLUDES:

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 prokaroytes 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

Other Information

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 midterm and final exams.

Course Policies

- If a student misses an exam (midterm or final) with a legitimate documented reason, documentation must be submitted to 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.

- 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.

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

- Students are allowed to record lectures using their own voice recording devices. However, taking pictures or video recording of exam questions discussed during class will **NOT** be allowed.

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - http://www.yorku.ca/academicintegrity/

Access/Disability

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.
Additional information is available at the following websites:
Counselling & Disability Services - http://cds.info.yorku.ca/
Counselling & Disability Services at Glendon - https://www.glendon.yorku.ca/counselling/
York Accessibility Hub - http://accessibilityhub.info.yorku.ca/

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete and submit an Examination Accommodation Form at least 3 weeks before the exam period begins. The form can be obtained from Student Client Services, Student Services Centre or online at http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf

Student Conduct in Academic Situations

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/