Syllabus for:

MCB5445 Epigenetics and Genome Dynamics, 3 credits

Instructor:

Barbara Mellone, PhD
Associate Professor,
Department of Molecular and Cell Biology

Contact information:

ESB, 2nd floor
barbara.mellone@uconn.edu
Office hours: by appointment

Course schedule:

Tu-Thu 11:00AM - 12:15PM; ESB 304

Background textbooks:

1) General:

★Molecular Biology by Craig et al. Oxford publishing.

★Molecular Biology of the Gene by Watson et al. CSHL Press

2) Epigenetics and chromatin:

★Epigenetics by Allis et al. CSH Press.

Subject to Change Statement: **Information contained in the course syllabus, other than the grade policy, may be subject to change with advance notice, as deemed appropriate by the instructor.**

Course objectives:

The objective of the course is for students to gain an in-depth appreciation of current advances in the fields of **chromosome structure and dynamics, epigenetics and nuclear architecture**. This will be accomplished only in part through formal lectures and heavily during discussion on primary literature articles. Students will also be responsible to identify one key research article related to the topics covered and to give a 10-15 min (depending on # of students) presentation to the rest of the class highlighting the **key findings** of the article and future directions of that research. More details on the students presentations will be provided during class. At the conclusion of this course you should have a solid grasp of the complexity of genome organization in the context of its segregation, structure, and transcription.
This is a graduate level course and you are required to have a solid foundation in genetics (2410 or equivalent) and cell biology as well as molecular biology techniques. We will not be covering the genetics and cell biology basics – but moving quickly into the molecular aspects of chromosome biology and epigenetics. If you are having trouble with the material, please notify me immediately so I can direct you to appropriate background reading.

Recipe for success:

The single most important element in doing well in this class is keeping up to date. **Taking careful notes, reviewing your notes before the next lecture and studying the assigned readings ahead of time** will make an enormous difference in the final result. Do not hesitate to ask the instructors questions. Reviewing the material only before exams is a very poor strategy, since each lecture uses materials from previous lectures and you could get left behind. Furthermore, participation in class discussions is an important component of your final grade.

Course Materials:

The class will consist of lecture based material, readings, class participation activities, and student presentations. I strongly encourage student participation and aim to establish a forum of open discussion in the class. As many other graduate courses, this class will rely on students' ability to read, understand, and critically analyze **primary literature papers**. The **textbooks are recommended only for students that feel that they would benefit from some additional background information**. The Molecular Biology and Molecular Biology of the Gene books provide basic background information, whereas the Epigenetics book contains the more in-depth concepts covered by the class. Please be aware that we will cover a subset of the concepts in these books and that some of the aspects will be covered in more detail during class. The books must be used as **background reading and cannot replace the material presented during the lectures or**

articles discussed. I suggest borrowing the books from the library or myself rather than purchasing them. Reviews and research articles will be distributed in class or posted on Husky CT. Lectures will be posted on Husky CT after each class.

Assessment:

There will be two exams for this class, each will be worth 30% of your grade and will be approximately 1hr in length. An optional oral final exam which will cover the content of the entire course can be administered under exceptional circumstances. The exams will cover material from lectures and articles. Students will be expected not only to have learned the material, but also to be able to connect and apply the concepts covered in class to successfully answer exam questions. Anything that is discussed in class will be fair game.

Each student will also give a presentation highlighting a key article about one of the topics covered during class. Presentations will count for 20% of your final grade. The remaining 20% of your grade will come from your contributions during in-class discussions of articles. Extra credit (up to 1/2 a grade) may be allocated to students whose participation and contribution to class discussions goes *well above and beyond* normal participation, so it pays off to be an active member of the class!

Grading scale:

A+	97-100	B-	80-82.9
A	93-96.9	C+	77-79.9
A-	90-92.9	C	73-76.9
B+	87-89.9	C-	70-72.9
B	83-86.9		

Disability Support Services:

Students who believe that they may need accommodations in this class are encouraged to contact the Center for Students with Disabilities as soon as possible to ensure that accommodations are implemented in a timely fashion. Center for Students with Disabilities, 233 Glenbrook Road, Unit 4174, Wilbur Cross Building, Room 204, Storrs, CT 06269-4174, Voice: 860-486-2020, Fax: 860-486-4412

Correspondence:

All students are expected to check and respond to their email on a regular basis. Students will be contacted at their UConn email address (firstname.lastname@uconn.edu). It is the student's responsibility to have UConn email forwarded to personal email accounts. The instructor is not responsible for undelivered email. Students must retain a copy of important emails sent to the instructor for documentation purposes (including date, time, and address sent to).

Missed class policy:

Please plan to attend all classes. If you cannot attend classes due to illness or other extenuating circumstance **please email me in advance.** You will be responsible to make up the missed material. You are welcome to come to office hours for any clarifications *after* you have reviewed the missed material.

Academic Misconduct:

Academic misconduct in any form is in violation of the University of Connecticut Student Code and will not be tolerated. This includes, but is not limited to copying or sharing answers on tests, assignments, plagiarism, and having someone else do your academic work. Depending on the act, the student could receive an F grade on the test/assignment, F grade for the course, and could be suspended or expelled from the University. Please see the Student Code at http://www.community.uconn.edu/student_code.html for more details and a full explanation of the Academic Misconduct policies and process.