Syllabus – May 2026

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

Course and Instructor Information

Course Title: MCB 2410 Genetics
Credits: 3
Format: Remote
Prerequisites: BIOL 1107. Not open for credit to students who have passed MCB 2400. May not be taken out of sequence after passing MCB 3220, 3400, 3410, 3412, 3413, 3843W, or 4416.

Professor/Instructor/Facilitator: Dr. Mark Longo, Ph.D.
Pronouns: him, he, his
Email: mark.longo@uconn.edu
Telephone: N/A
Office Hours/Availability- You may reach me by email. I am also available for WebEx remote meetings by appointment (https://uconn-cmr.webex.com/meet/msl01003). I will also schedule some dedicated times I will be available for remote office hours to answer any questions. The times for those will be announced on HuskyCT.

Course Materials

Required course materials should be obtained before the first day of class.
Textbook:

STRONGLY RECOMMENDED - a textbook.

The publisher has an online platform that goes along with the text I use. The platform is called 'Achieve'. The textbook is "Genetics: A Conceptual Approach 7th edition" by Benjamin Pierce. The May session is too short to require any activities on Achieve. I will make the content available to you for practice and studying. You can purchase Achieve separately or it comes with the Loose-Leaf book I ordered. While you will not be required to complete any of the activities on Achieve, it does have a copy of the text available on the platform. This is why I included only the purchase of Achieve as an option, since it is the cheapest way to access the 7th edition of the text. Since you do not need to complete anything on Achieve, you don't necessarily need access to it. **I do strongly recommend using a text, but you could get away with an older used edition (5th or 6th edition, older than that is too old)**. The information for the 7th edition and Achieve is below;

"Achieve for Genetics: A Conceptual Approach 7th Edition (1-Term Access)"
ISBN 10 Digit: 131940135X
ISBN 13 Digit: 9781319401351

Link to Achieve:TBD

"Loose-Leaf Version for Genetics: A Conceptual Approach & Achieve for Genetics: A Conceptual Approach 7th Edition (1-Term Access)"
ISBN 10 Digit: 1319423817
ISBN 13 Digit: 9781319423810

Texts are available for purchase through the UConn Bookstore (or use the Purchase Textbooks tool in HuskyCT). Textbooks can be shipped (fees apply).

Course Description

Foundational principles of classical genetics and modern genomics with a focus on eukaryotic model genetic organisms. Emphasis on molecular mechanisms underlying heredity. Intended for majors in MCB and related disciplines.

Conceptually the course is divided into three parts: Mendelian genetics, molecular genetics, and applied genetics. Students are urged to listen carefully to the lectures and read the appropriate portions of the text to assist in mastery of material. There will be an emphasis on solving genetic problems. Practice problems can be found on HuskyCT in the 'Practice Problems' section. These problems are what TA's go over in discussion section during a normal full-length semester. They are the best example of what to expect on the quizzes and exams.

How to Succeed in this Course

The material covered in the lectures and practice problems should guide your reading of the textbook chapters. You will be responsible for only this material (and natural extensions of this material). The textbook has enough material for two semesters, so you are not responsible for the sections that are not covered in lectures and problems. Additional practice material, practice questions, tutorials and animations can be found on Acheive. All of that material is available but is not graded for the course.

Course Outline

Module 1: Mendelian Genetics
Chapters 1-3,6-8 (sex determination from Chapter 4 is covered with chapter 8).
Module 2: Molecular Genetics
Chapters 10, 12-15, 17-18 (the *Lac Operon* from chapter 16 is covered with chapter 17).
Module 3: Applied Genetics
Chapters 19-20, 23-26

Class Meeting Schedule

A detailed course schedule can be found at the end of this syllabus and on HustyCT.

- The course will be timed with two recorded lectures per day on Mondays, Tuesdays and Wednesdays. Additional 'Problem solving' recordings will also be available.
- **Quizzes will be administered through HuskyCT using the Lockdown Browser**. Quizzes will be due on each **Tuesday, Wednesday and Thursday** covering the previous days' lecture. These quizzes will be available from **7am until 11:59pm** on the scheduled day. You must complete all questions within half an hour of starting the quiz.
- **Exams will also be administered through HuskyCT using the Lockdown Browser**. Exams will be due each **Friday** covering that weeks' material. These exams will be available from **7am until 11:59 pm** each Friday. You must complete all questions within one hour of starting the exam.

Course Requirements and Grading

Summary of Course Grading:

Course Components	Weight
Quizzes	25%
Highest Exam	30%
Middle Exam	25%
Lowest Exam	20%

Lockdown Browser: Quizzes and Exams must be taken using the Lockdown Browser. There is a link in Course Resources of HuskyCT if you need to download and install it. For any calculations, there is a calculator available from within the browser.

Quizzes: will be administered through HuskyCT. These will be short (~10-15 question) assessments and can be used as an example of the sort of problems to expect on the exams. The lowest quiz score will be dropped. You will have 30 minutes to complete each quiz once you begin it.

Exams 1-3: will be administered through HuskyCT. These will be similar to the type of questions found on the quiz but can cover any material covered in lectures (not just what was found on the quizzes). They will be approximately 35 multiple choice questions. Your highest scoring exam will count as 30% of your grade, your lowest exam will be 20% and the middle scoring exam will count 25%. You will have 60 minutes to complete each exam once you begin it.

Grading Scale:

Grade	Letter Grade	GPA
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
<60	F	0.0

Due Dates and Late Policy

All course due dates are identified in the Course Schedule on HuskyCT. Deadlines are based on Eastern Time; if you are in a different time zone, please adjust your submittal times accordingly. *The instructor reserves the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.*

> **Late submissions:** Quizzes and exams can be turned in up to two days late for a penalty of -10%. If you have extenuating circumstances please reach out to me to make arrangements.

Weekly Time Commitment

You should expect to dedicate approximately 42 hours a week to this course. This expectation is based on the various course activities, assignments, and assessments and the University of Connecticut's policy regarding credit hours. More information related to hours per week per credit can be accessed at the Online Student website.

Student Authentication and Verification

The University of Connecticut is required to verify the identity of students who participate in online courses and to establish that students who register in an online course are the same students who participate in and complete the course activities and assessments and receive academic credit. Verification and authentication of student identity in this course will include:

1. Secure access to the learning management system using your unique UConn NetID and password.

2. **I may request to meet with students by appointment using my WebEx room** (https://uconn-cmr.webex.com/meet/msl01003) to show their student ID and I will also verify this against the student admin photos or government issued ID.

Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
    - Academic Integrity
    - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Credit Hours and Workload
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from Blackboard's website)

Software/Technical Requirements (with Accessibility and Privacy Information)

The software/technical requirements for this course include:

- HuskyCT/Blackboard (HuskyCT/ Blackboard Accessibility Statement, HuskyCT/ Blackboard Privacy Policy)
- Adobe Acrobat Reader (Adobe Reader Accessibility Statement, Adobe Reader Privacy Policy)
- Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).
- WebCam

For information on managing your privacy at the University of Connecticut, visit the University's Privacy page.

NOTE: This course has NOT been designed for use with mobile devices.

Help

Technical and Academic Help provides a guide to technical and academic assistance.

This course is facilitated online using both the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the Help Center. You also have 24x7 Course Support including access to live chat, phone, and support documents.

Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

University students are expected to demonstrate competency in Computer Technology. Explore the Computer Technology Competencies page for more information..

Evaluation of Course Experience

Students will be given an opportunity to provide feedback on their course experience and instruction using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

The University of Connecticut is dedicated to supporting and enhancing teaching effectiveness and student learning using a variety of methods. The Student Evaluation of Teaching (SET) is just one tool used to help faculty enhance their teaching. The SET is used for both formative (self-improvement) and summative (evaluation) purposes.

Additional informal formative surveys and other feedback instruments may be administered within the course.

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Detailed Course Schedule.

MCB2410	Genetics		May 2026		
Week	**Day**	**Date**	**Chapter**	**Course Topic**	**Due Dates**
Module 1 - Mendelian Genetics					
1	Monday	5/11/2026	Ch. 2	Intro to 2410 / Chromosomes & Cellular Reproduction	
			Ch. 3	Basic principles of heredity.	
	Tuesday	5/12/2026	Ch. 5	Extensions and modifications of basic principles.	Quiz Ch. 2-3 due
			Ch. 6	Pedigree analysis, applications and genetic testing.	
	Wednesday	5/13/2026	Ch. 7	Linkage, recombination and eukaryotic gene mapping.	Quiz Ch. 5-6 due
			Ch. 8	Chromosome variation.	
	Thursday	5/14/2026	-	** Study day **	Quiz Ch. 7-8 due
	Friday	05/15/20263	-	***** Exam 1 (Ch. 2, 3, 5-8) *****	Exam 1 due
Module 2 - Molecular Genetics					
2	Monday	5/18/2026	Ch. 10 & 12	DNA structure	
			Ch. 12	DNA Replication	
	Tuesday	5/19/2026	Ch. 13 & 14	Transcription, RNA molecules and RNA processing.	Quiz Ch. 10 & 12
			Ch. 15	The genetic code and Translation	
	Wednesday	5/20/2026	Ch. 17	Control of gene expression	Quiz Ch. 13-15 due
			Ch. 18	Gene mutations and DNA repair	
	Thursday	5/21/2026	-	** Study day **	Quiz Ch. 17-18 due
	Friday	5/22/2026	-	***** Exam 2 (Ch. 10, 12-15, 17-18) *****	Exam 2 due
Module 3 - Applied Genetics					
3	Monday	5/25/2026	Ch. 19	Molecular genetics	
			Ch. 20	Genomics	
	Tuesday	05/26/206	Ch. 23	Cancer genetics.	Quiz Ch. 19-20 due
			Ch. 24	Quantitative genetics.	
	Wednesday	5/27/2026	Ch. 25	Population genetics	Quiz Ch. 23-24 due
			Ch. 26	Evolutionary genetics.	
	Thursday	5/28/2026	-	** Study day **	Quiz Ch. 25-26 due
	Friday	5/29/2026	-	***** Exam 3 (Ch. 19-20, 23-26) *****	Exam 3 due