

BIOCHEMISTRY 401
Gene Expression in Eukaryotes CRN 20314
Course Outline: Spring 2022

We acknowledge and respect the I lk n peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNE peoples whose historical relationships with the land continue to this day.

This classroom is one where everyone will be treated with respect, and we welcome individuals for all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability-and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

COURSE DELIVERY

This course will be delivered via Brightspace (Uvic) and students must sign in with their Uvic accounts to access course materials, and assessment materials.

LOCATION & TIME: MacLaurin Building D288, MR 10:00-11:20 am

Universal Washroom location: MAC A185

INSTRUCTORS:

Dr. Caren Helbing

Office: Petch 249

Office hours: TBA

email: bcmb@uvic.ca

TOPICS:

Biochemistry 401 is an advanced study of gene expression in eukaryotes. Topics include gene structure, eukaryotic transcription, transcriptional regulation, and post-transcriptional processing with special emphasis on transcription factors and RNA dynamics with a discussion of the current literature highlighting the role of gene expression in disease and development.

Required reading:

Citations to review articles and papers for reading assignments will be available on Brightspace. Students will need to find the papers on-line and download the articles. All suggested papers are from journals that are subscribed to by UVic.

Date	Topic	Assessment
PART 1: Dr. Helbing, January 10 – February 17		
Jan 10	Challenges in scientific thinking and communication	
13	RNA polymerase complex and transcription factors	
17	Cis-regulatory elements	Lay summary assigned
20	Nuclear hormone receptors	
24	Transcription factor assays	Lay summary due (15%)
27	Transcription factor assays	Take home assignment 1 posted
31	Chromatin features affecting gene expression	
Feb 3	Transcript detection and bioinformatics approaches	Take home assignment 1 due (15%)
7	Transcript detection and bioinformatics approaches	Take home assignment 2 posted
10	Technique synthesis and scientific paper critique	
14	Technique synthesis and scientific paper critique	

Students must complete all five assessment pieces to be assigned a final grade.

Failure to complete one or more of assessments will result in a grade of "N" regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student's GPA as 0. The maximum percentage that can accompany an N on a student's transcript is 49.

DEPARTMENT INFORMATION AND POLICIES

1. The Department of Biochemistry and Microbiology upholds and enforces the University's policies on academic integrity. These policies are described in the current University Calendar. All students are advised to read this section.
2. Cell phones, computers, and other electronic devices must be turned off at all times during live class sessions unless being used for the purpose of connecting and engaging with the class.
3. No recordings of live lectures are permitted without permission of the instructor. However, many courses

Undergraduate Records. Deferred final exams for fall term courses will be arranged by the instructor. Deferred final exams or spring term courses will be arranged through Undergraduate Records and must be written before the end of the summer term as stipulated in the University Calendar.

9. Requests for review/remark of a midterm exam must be made within one week of the exam being returned.
10. The instructor reserves the right to use