

BIOL 4890 - Molecular Genetics

Summer 2026 Syllabus, Section 01, CRN 30028,

Credit hours: 3

Instructor

David Asch

Professional Qualifications:

Professional Qualifications: Ph.D University of Kansas

Master's, Education, Creighton University

Bachelor's, University of Nebraska-Lincoln

Chairperson

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Preferred Contact Method: E-mail (Phone message is much more uncertain.)

Communication Expectations:

I will attempt to answer messages within 24 hours. Messages after 3pm will be answered the next day.

Course Description

4890. Molecular Genetics. Examination of DNA structure, DNA replication, transcription, translation, RNA processing, and gene control in both prokaryotes and eukaryotes. Prereq.: BIOL 3711 or BIOL 3721. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Book		

Recommended text: Molecular Biology: Principles and Practice by Cox et al. 2nd edition

Top Hat Subscription

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	6/29	Ch 1	Intro	
Wed	7/1	Ch2 Ch 6	Studying the Molecules of Life DNA: The repository of Biological Info DNA and RNA structure	
Fri	7/3		Holiday	
Mon	7/6	Ch 6 Ch 7	DNA and RNA structure Studying genes	
Wed	7/8	Ch 7 Ch 8	Studying genes Genomes Transcriptomes and Proteomes	
Fri	7/10	Ch 8 Ch 9	Genomes Transcriptomes and Proteomes DNA Topology (Online)	

Mon	7/13	Ch 9 Ch 10	DNA Topology Nucleosomes, Chromatin and Chromosome Structure Exam I
Wed	7/15	Ch 10 Ch 11	Nucleosomes, Chromatin and Chromosome Structure DNA replication
Fri	7/17	Ch 11	DNA replication (Online)
Mon	7/20	Ch 11 Ch 15	DNA replication DNA Dependent Synthesis of RNA
Wed	7/22	Ch 15	DNA Dependent Synthesis of RNA Exam II
Fri	7/24	Ch 15 Ch16	DNA Dependent Synthesis of RNA RNA processing
Mon	7/27	Ch 16 Ch 17	RNA processing Genetic Code
Wed	7/29	Ch 18	Protein Synthesis
Fri	7/31	Ch 19	Regulating the flow of information (Online)
Mon	8/3	Ch 20	Regulation of gene expression in Bacteria Exam III
Wed	8/5	Ch 21	The Transcriptional Regulation of Gene Expression in Eukaryotes
Fri	8/7	Ch 22	The posttranscriptional Regulation of Gene Expression in Eukaryotes (Online)
Mon	8/10		The posttranscriptional Regulation of Gene Expression in Eukaryotes (Online)
Wed	8/12		Exam IV
Fri	8/14		No class

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