

Review Guide for Chem 431C Final Exam

The final exam for Chem 431C is scheduled for 8-10:30 am Wednesday, June 8, 2009. It is worth 150 points, i.e. almost 2 midterms. As such it is important to perform well during this test to maintain or hopefully improve your grade.

The chapters to be covered together with their expected weight (% of total points) are indicated below. In each of these sections, it is strongly suggested that the student go over the summary for the particular section being studied. Given the volume of detail that goes into each section, this will maintain your overview and keep you from getting lost in the details. Those summaries will also serve in helping write the test itself. A few important sections (such as 25.3) have been skipped for the test due to the volume of information contained in these sections, and to allow the students to focus their review.

Chapters	% of the exam	Sections emphasized- indicates focus but not strict limits.
8	5%	8.1 general structure and nomenclature of nucleotides, 8.2 general structure of nucleic acids 8.3 melting experiments
22	5%	22.1 nitrogen-fixation reactions/nitrogenase 22.2 Types of allosteric regulation of aa synthesis 22.4 ribonucleotide reductase regulation
24	10%	24.2 DNA supercoiling; topoisomerase mechanisms 24.3 Chromosome structure: histones
25	10%	25.1 Replication steps and key proteins/enz in each step 25.2 General features of 4 DNA repair mechanisms
26	20%	26.1 Transcription steps and their proteins. 26.2 Splicing mechanisms of 4 classes of introns 26.2 Reverse transcriptase mechanisms and components;telomerase; RNA replicase
27	30%	27.1 Genetic code, wobble, ORF 27.2 5 stages of protein biosynthesis- know steps and components of each stage 27.3 Protein targeting in eukaryotes; read about ubiquitin and degradation.
28	15%	28.1 General principles of regulation of gene expression 28.2 lac and trp operon regulation
9	5%	9.1 Basics of cloning;vectors used 9.2 DNA libraries; PCR
Total	100%	

What will be the format for the test? Is it like the first or the second test?

There will not be multiple choice questions.

There will be "essay questions" probing the student's depth of understanding of the concepts and mechanisms we have learned. There will also be short answer questions such as filling in the blanks. There will be questions which see if the student understands the implication of conditions in which unusual changes may occur that damage certain portions of the genetic information at some stage of its processing.