

Exam 3's new topics (ca. 50 questions of final is on these topics; ca. 25 questions are cumulative from Exam 1 and Exam 2 material)

Topic 08 - DNA, RNA, and Proteins

I. DNA

- A. Deoxyribonucleic Acid
- B. Polymerization
- C. Double helix
- D. DNA replication

II. Transcription

- A. Process
 - 1. Initiation
 - 2. Elongation
 - 3. Termination
- B. Transcript Destiny
 - 1. tRNA
 - 2. rRNA
 - 3. mRNA
 - a. mRNA maturation

III. Translation

- A. Background
 - 1. The Genetic Code, Triplets and Codons
 - 2. tRNA, anticodons and amino acids
 - 3. Ribosome
- B. Process
 - 1. Initiation
 - 2. Elongation
 - 3. Termination

Topic 09 - Evolution

I. Populations

- A. Evolution is change over time
- B. Populations are the units of evolutionary change.

II. Evolution

- A. Forces of evolution
 - 1. Mutation
 - 2. Genetic Drift
 - 3. Nonrandom Mating
 - 4. Migration (gene flow)
 - 5. Natural Selection

Topic 10 – Origins of Cetaceans

I. Cetaceans

- A. What
- B. Mammalian Heritage

II. Evolutionary Origins

- A. Phylogenetic Evidence
- B. Anatomical Evidence
- C. Paleontological Evidence

III. Analogous Transformations

- A. Sirenians
- B. Pinnipeds
- C. Otters

IV. Summary

- A. Terrestrial origin for cetaceans
- B. Analogous transitions have occurred or are occurring in a variety of lineages
- C. Degree of modification in various structures depends on age of lineage