

MOLECULAR EVOLUTION

20404 - BIOL435 - A01
January 8 – April 8, 2024

COURSE OUTLINE

LECTURER: JOHN S. TAYLOR

Office Petch 012 Tel: 250-472-5206 email: taylorjs@uvic.ca

Lectures: MR: 11:30 AM - 12:50 PM -108 Engineering and Comp Sci (ECS) Bldg.

COURSE DESCRIPTION. Ten topics in Molecular Evolution: 1. Alignments and conserved elements (UCEs). 2. Rapid and remarkable sequence evolution (e.g., positive selection and fish antifreeze glycoproteins). 3. ‘Normal’ molecular evolution (e.g., Blossum matrices). 4. Gene duplication and divergence (and gene ‘essentially’ in human cells lines). 5. Phylogenetics (incl. two in-class ‘labs’). 6. Gene conversion. 7. ‘de novo’ protein coding genes. 8. RNA-coding genes and ribo-switches. 9. Sex chromosomes and distorter genomes (incl. booklice). 10. Mitochondrial DNA evolution.

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