**BINF 732 – Genomics**

**Final Exam**

**Due May 12, 2025 at 1:30 pm**

**Please answer all four questions. Please limit answers to one page per question.**

1. **How does the genome play a role in the diversity of food plants available? How are plants that produce now food varieties created? Please give examples.**
2. **Colossal Biosciences has reportedly cloned three dire wolf pups by using ancient DNA, cloning, and gene-editing techniques to alter the genes of a gray wolf. Have they really resurrected an extinct species? Please explain your answer using concepts from genomics.**
3. **What processes regulate what genes are expressed in a cell? Please explain how these processes can be altered to change the genes expressed in the cell.**
4. **What is gene editing and what techniques are used? Can gene editing be used to treat human disease? Please support your argument with details.**