

GENETICS & VIROLOGY

Upon completion of this course on Genetics & Virology, students will be able to:

1. Remember:

- Recall the key principles of Mendelian genetics and how traits are inherited in organisms.
- Identify different types of viruses and their characteristics.
- Recognize the importance of biosafety measures in handling microbial organisms and viruses.

2. Understand:

- Explain the process of genetic inheritance and its implications in human health and disease.
- Describe the structure and replication of viruses and their impact on host cells.
- Understand the significance of biosafety protocols in preventing laboratory-acquired infections.

3. Apply:

- Apply Mendelian genetics principles to predict the outcomes of genetic crosses.
- Apply knowledge of microbial genetics to analyze the genetic variation and evolution of microorganisms.
- Apply biosafety guidelines in laboratory settings to ensure safe handling of microbial cultures and viruses.

4. Analyze:

- Analyze genetic data to interpret inheritance patterns and genetic disorders.
- Analyze the molecular mechanisms of viral replication and pathogenesis.
- Analyze the risks associated with handling potentially hazardous microbial organisms and viruses.

5. Evaluate:

- Evaluate the ethical implications of genetic research and technologies.
- Evaluate the impact of viruses on human health and strategies for viral control.
- Evaluate the effectiveness of biosafety measures in preventing laboratory-acquired infections.

6. Create:

- Design experiments to investigate genetic traits and inheritance patterns.
- Create strategies for prevention and control of viral outbreaks based on genetic and virological knowledge.
- Develop biosafety protocols tailored to specific laboratory settings for safe handling of microbes and viruses.

By the end of this course, students will have a comprehensive understanding of genetic principles, viral characteristics, and biosafety protocols, and be able to apply this knowledge to analyze and solve problems in the fields of Genetics & Virology.

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