



Hands on Laboratory Course on CRISPR-Cas GENE EDITING

Outcomes –

1. Critical thinking: Gene editing technology requires a deep understanding of biological systems and complex genetic interactions. Studying CRISPR CAS gene editing can help you develop critical thinking skills as you learn to evaluate data, draw conclusions, and make decisions based on evidence.
2. Problem-solving: In a CRISPR CAS gene editing course, you'll learn how to design and execute experiments to manipulate genes, which can help you develop problem-solving skills. You'll also learn how to troubleshoot and adapt experiments when things don't go according to plan.
3. Attention to detail: Gene editing requires a high level of precision, and even small errors can have significant consequences. Taking a CRISPR CAS gene editing course can help you develop an eye for detail and learn to work meticulously.
4. Communication skills: CRISPR CAS gene editing is a rapidly evolving field, and scientists need to be able to communicate their research findings effectively to different audiences. In a gene editing course, you'll likely have opportunities to practice presenting your research and explaining complex scientific concepts in simple terms.
5. Ethics and responsibility: Gene editing technology raises important ethical questions, and taking a CRISPR CAS gene editing course can help you develop an understanding of the ethical and social implications of gene editing. You'll also learn about the importance of responsible research practices and how to adhere to ethical guidelines when conducting experiments.

Syllabus –

- Introductory overview of basic concepts of Molecular Biology
- What is gene editing?
- Gene editing tools: Zinc Finger Nucleases (ZFNs) and TALENs and their limitations
- Introduction to CRISPR-Cas system and how it can be used as a gene editing tool?
- Components, types and mechanism of CRISPR-Cas system

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