

# Introduction to Genetic Engineering

50-MINUTE ONLINE COURSE | LEVEL 2

SUGGESTED PREREQUISITES: THE BIOLOGY OF BIOTECH

## OVERVIEW

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**Introduction to Genetic Engineering** online course explains the process and the power of genetic engineering. Genetic engineering is the deliberate modification of genetic material (DNA). It is used extensively in research, drug discovery, drug development and biomanufacturing. Biotechnology is built on genetic engineering and therefore it is a “must know” topic for those who work in or with the biopharma industry.

### Five Takeaways:

1. Review of DNA and protein structure and function and how protein synthesis occurs.
2. Steps involved in creating recombinant DNA and recombinant proteins.
3. Description of biologic “tools” such as restriction enzymes, needed to create recombinant DNA.
4. The pros and cons of various production cell lines such as bacterial cells and mammalian cells.
5. Types of recombinant protein therapies that treat patients.

## AGENDA

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- **DNA and Proteins: The Tools of Genetic Engineering** reviews DNA and protein basics, providing foundational knowledge needed to understand recombinant DNA and recombinant proteins.
- **Recombinant DNA: The Blueprint of Genetic Engineering** explains how scientists make and use recombinant DNA.
- **Recombinant Proteins: The Product of Genetic Engineering** maps out the process of creating recombinant proteins and highlights their importance in mitigating disease.