

# ChatGPT Solutions for Biotech Professionals

## Important Note:

- We can go ahead with ChatGPT free tier but for better effectiveness of this session, clients need to have their own ChatGPT Plus Subscription (<https://chat.openai.com/>)
- Unofficial courseware along with lab files/exercises will be provided

## Course Duration:

08 hours (1 day)

## Course Audience:

Bioprocessing professionals, Quality control personnel, Regulatory compliance teams

## Course Outcomes:

- Understand the role of AI in the bioprocessing industry.
- Learn how ChatGPT can aid in regulatory compliance and quality control.
- Apply text prompting techniques tailored for biotech applications.
- Explore OpenAI applications relevant to bioprocessing.
- Address AI reliability, ethical considerations, and privacy concerns in a biotech context.

## Chapter 01: Introduction to AI and Generative AI

1.1 What is Artificial Intelligence

1.2 What is Generative AI

1.3 Applications of AI and Generative AI

1.4 Use cases of AI and Generative AI

## Chapter 02: Introduction to AI in Bioprocessing

1.1 Overview of AI Applications in Biotech

1.2 Role of ChatGPT in Bioprocessing

1.3 Importance of Prompt Structure for Biotech Queries

1.4 Understanding the Capabilities and Limitations of ChatGPT in Biotech

## Chapter 03: Text Prompting for Biotech Applications

2.1 Basics of Text Prompting for Biotech Queries

- 2.2 Iterative Techniques Tailored for Bioprocessing
- 2.3 Using Summarization Techniques for Regulatory Standards
- 2.4 Inference Techniques in Text Prompting
- 2.5 Transformation Techniques for Text
- 2.6 Practical Applications: Use cases of different prompting techniques

## **Chapter 04: ChatGPT in Daily Bioprocessing Tasks**

- 3.1 Automating Routine Queries
- 3.2 Technical Applications: Equipment Maintenance, Cleanability, and More
- 3.3 Creative Uses of ChatGPT for Biotech Innovation
- 3.4 Case Studies: Success Stories and Lessons Learned

## **Chapter 05: Tour of OpenAI Applications in Biotech**

- 4.1 Fine-tuning ChatGPT for Specific Biotech Tasks
- 4.2 Potential for Image Analysis in Bioprocessing
- 4.3 Exploring Other OpenAI Applications Relevant to Biotech

## **Chapter 06: Addressing AI Reliability in Biotech**

- 5.1 Importance of Reliable AI Responses for Compliance
- 5.2 Techniques for Ensuring Ethical AI Use in Biotech
- 5.3 Addressing Transparency and Trust in AI Tools
- 5.4 Privacy Concerns: Protecting Sensitive Biotech Data