

GENERATIVE AI BUSINESS SOLUTIONS

GENAIBIZ™ GAIBS

Exam: GAZ-110

Duration: 3 days; Instructor-led | Virtual Instructor-led

WHAT YOU WILL LEARN

The CertNexus GenAIBIZ (GAZ-110) 3-Day Course is designed to equip professionals with foundational and advanced knowledge in Artificial Intelligence (AI), particularly focusing on Generative AI. This course provides a comprehensive understanding of AI concepts, machine learning basics, and deep learning techniques, along with practical applications in business scenarios. Participants will explore AI-generated content in various forms such as text, code, images, videos, and audio, and learn how to implement AI-driven solutions in their organizations. The course also addresses the technical, ethical, and business challenges associated with generative AI, ensuring that participants are well-prepared to navigate the evolving AI landscape.

COURSE OBJECTIVES

By the end of the CertNexus GenAIBIZ (GAZ-110) 3-Day Course, participants will be able to:

- **Understand AI Fundamentals:** Gain a thorough understanding of AI, its recent developments, and enabling technologies.
- **Explore Generative AI Techniques:** Learn the key concepts, tools, and methodologies used in generative AI for creating text, code, images, videos, and audio content.
- **Apply AI in Business Contexts:** Identify and implement AI-generated solutions to address real-world business problems, enhancing operational efficiency and innovation.
- **Address AI Challenges:** Recognize the technical and ethical challenges of generative AI, and develop strategies for mitigating risks in AI projects.
- **Implement AI Strategies:** Formulate best practices for integrating generative AI into business operations, aligning projects with organizational goals and ensuring effective change management.
- **Evaluate AI Projects:** Develop skills to assess the impact and sustainability of AI initiatives, using appropriate evaluation methods and KPIs.

COURSE CONTENTS

Day 1: Introduction and AI Fundamentals

Module 1: Morning Session: Introduction to AI and CertNexus

- Welcome and Course Overview
 - Introduction to CertNexus and its mission.
 - Overview of the GenAIBIZ (GAZ-110) certification.
- Introduction to Artificial Intelligence
 - Definitions: AI, General vs. Narrow AI.
 - Recent history and timeline of AI developments.
 - Enabling technologies in AI.

Module 2: Mid-Morning Session: Machine Learning Basics

- Machine Learning Concepts
 - Difference between algorithms and models.
 - Datasets and their importance.
 - Approaches: Supervised vs. Unsupervised Learning.
- Deep Learning Overview
 - Understanding Artificial Neural Networks (ANN).
 - Network parameters, weights, and hyperparameters.
 - Applications in Natural Language Processing (NLP) and Computer Vision.

Module 3: Afternoon Session: Generative AI Fundamentals

- Generative AI Concepts
 - Definition and key organizations/resources.
 - Generative AI modalities: Text, Code, Images, Video, Audio, Multimodal.
 - Approaches: GAN, VAE, GPT, Diffusion, RLHF.
- Prompt Engineering and Fine-Tuning
 - Basics of prompt engineering.
 - In-context prompting and fine-tuning models.
 - API access for generative AI.

Day 2: Solving Business Problems with AI-Generated Content

Module 4: Morning Session: Generating Text and Code with AI

- Text Generation
 - Large Language Models (LLM) and tokens.
 - Approaches: Text generation, completion, chatbots, speech to text.
 - Tools: OpenAI GPT, ChatGPT, Bard, Microsoft 365 Copilot, Duet AI, Whisper.
 - Business use cases: Customer service, marketing, information summarization.

- Code Generation
 - Approaches: Code generation, completion, refactoring, testing, debugging.
 - Tools: OpenAI Codex, GitHub Copilot, Amazon CodeWhisperer, CodeT5.
 - Business use cases: Rapid development, project management, QA, software security.

Module 5: Mid-Morning Session: Generating Images and Videos with AI

- Image Generation
 - Approaches: Text to image, image to image, editing, upscaling.
 - Tools: DALL-E, Craiyon, Midjourney, Stable Diffusion.
 - Business use cases: Promotional materials, product design, medical imaging.
- Video Generation
 - Approaches: Text to video, image to video, customization.
 - Tools: Synthesia, Rephrase Studio, Make-A-Video, Runway.
 - Business use cases: Corporate branding, training materials, games/virtual worlds.

Module 6: Afternoon Session: Generating Audio with AI

- Audio Generation
 - Approaches: Text to audio, audio editing, assistive AI.
 - Tools: Jukebox, VALL-E, MusicLM, ElevenLabs.
 - Business use cases: Promotional materials, voiced chatbots, language learning.
- Prompt Engineering for Media
 - Techniques for effective prompt engineering.
 - Fine-tuning models for specific use cases.

Day 3: Generative AI Challenges and Business Strategies

Module 7: Morning Session: Identifying Generative AI Challenges

- Technical and Ethical Challenges
 - Issues: Confabulation, misinformation, costs, lack of control, data limitations.
 - Ethical risks: Privacy, accountability, transparency, bias, security.
- Business Concerns
 - Governance, employee impact, future of work.
 - Operational and data risks, brand reputation, legal issues.

Module 8: Mid-Morning Session: Implementing Business Strategies

- Best Practices for Generative AI Implementation

- Project factors: Scope, strategy, objectives, requirements.
- Alignment with organizational, ESG, and ethical initiatives.
- Selection and Acquisition
 - Selecting the right modalities and tools.
 - Acquiring resources and job expertise.
- Education and Change Management
 - Educating end users and employees.
 - Change management strategies: Change agents, knowledge translators.

Module 9: Afternoon Session: Evaluating Generative AI Projects

- Evaluation Methods
 - Business impact analysis, comparative analysis.
 - Collecting and analyzing user feedback.
- Monitoring and KPIs
 - Usage monitoring, adverse results analysis, long-term sustainability.
- Final Review and Q&A
 - Recap of the course content.
 - Open Q&A session to address any remaining questions.