

**uCertify**

# Course Outline

**Artificial Intelligence Basics**



30 Oct 2025

1. Exercises, Quizzes, Flashcards & Glossary  
Number of Questions
2. Expert Instructor-Led Training
3. ADA Compliant & JAWS Compatible Platform
4. State of the Art Educator Tools
5. Award Winning Learning Platform (LMS)
6. Chapter & Lessons

Syllabus

Chapter 1: Introduction

Chapter 2: AI Foundations

Chapter 3: Data

Chapter 4: Machine Learning

Chapter 5: Deep Learning

Chapter 6: Robotic Process Automation (RPA)

Chapter 7: Natural Language Processing (NLP)

Chapter 8: Physical Robots

Chapter 9: Implementation of AI

Chapter 10: The Future of AI

Videos and How To

7. Performance Based labs

Lab Tasks

Here's what you get

## 1. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

**81**  
EXERCISES

## 2. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

**161**  
QUIZ

## 3. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

**96**  
FLASHCARDS

## 4. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.



## 5. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

## 6. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

## 7. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

## 8. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
  1. Best Postsecondary Learning Solution
  
- **2015**
  1. Best Education Solution
  2. Best Virtual Learning Solution
  3. Best Student Assessment Solution
  4. Best Postsecondary Learning Solution
  5. Best Career and Workforce Readiness Solution
  6. Best Instructional Solution in Other Curriculum Areas
  7. Best Corporate Learning/Workforce Development Solution
  
- **2016**
  1. Best Virtual Learning Solution
  2. Best Education Cloud-based Solution
  3. Best College and Career Readiness Solution
  4. Best Corporate / Workforce Learning Solution
  5. Best Postsecondary Learning Content Solution

6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

- **2017**

1. Best Overall Education Solution
2. Best Student Assessment Solution
3. Best Corporate/Workforce Learning Solution
4. Best Higher Education LMS or Learning Platform

- **2018**

1. Best Higher Education LMS or Learning Platform
2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**

1. Best Virtual Learning Solution
2. Best Content Authoring Development or Curation Solution
3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

## 9. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

# Syllabus

## Chapter 1: Introduction

## Chapter 2: AI Foundations

- Alan Turing and the Turing Test
- Cybernetics
- The Origin Story
- Golden Age of AI
- AI Winter
- The Rise and Fall of Expert Systems
- Neural Networks and Deep Learning
- Technological Drivers of Modern AI
- Structure of AI
- Conclusion
- Key Takeaways

## Chapter 3: Data

- Data Basics

- Types of Data
- Big Data
- Databases and Other Tools
- Data Process
- Ethics and Governance
- More Data Terms and Concepts
- Conclusion
- Key Takeaways

## Chapter 4: Machine Learning

- What Is Machine Learning?
- Standard Deviation
- The Normal Distribution
- Bayes' Theorem
- Correlation
- Feature Extraction
- What Can You Do with Machine Learning?
- The Machine Learning Process

- Applying Algorithms
- Common Types of Machine Learning Algorithms
- Naïve Bayes Classifier (Supervised Learning/Classification)
- K-Nearest Neighbor (Supervised Learning/Classification)
- Linear Regression (Supervised Learning/Regression)
- Decision Tree (Supervised Learning/Regression)
- Ensemble Modelling (Supervised Learning/Regression)
- K-Means Clustering (Unsupervised/Clustering)
- Conclusion
- Key Takeaways

## Chapter 5: Deep Learning

- Difference Between Deep Learning and Machine Learning
- So What Is Deep Learning Then?
- The Brain and Deep Learning
- Artificial Neural Networks (ANNs)
- Backpropagation
- The Various Neural Networks

- Deep Learning Applications
- Deep Learning Hardware
- When to Use Deep Learning?
- Drawbacks with Deep Learning
- Conclusion
- Key Takeaways

## Chapter 6: Robotic Process Automation (RPA)

- What Is RPA?
- Pros and Cons of RPA
- What Can You Expect from RPA?
- How to Implement RPA
- RPA and AI
- RPA in the Real World
- Conclusion
- Key Takeaways

## Chapter 7: Natural Language Processing (NLP)

- The Challenges of NLP

- Understanding How AI Translates Language
- Voice Recognition
- NLP in the Real World
- Voice Commerce
- Virtual Assistants
- Chatbots
- Future of NLP
- Conclusion
- Key Takeaways

## Chapter 8: Physical Robots

- What Is a Robot?
- Industrial and Commercial Robots
- Robots in the Real World
- Humanoid and Consumer Robots
- The Three Laws of Robotics
- Cybersecurity and Robots
- Programming Robots for AI

- The Future of Robots
- Conclusion
- Key Takeaways

## Chapter 9: Implementation of AI

- Approaches to Implementing AI
- The Steps for AI Implementation
- Identify a Problem to Solve
- Forming the Team
- The Right Tools and Platforms
- Deploy and Monitor the AI System
- Conclusion
- Key Takeaways

## Chapter 10: The Future of AI

- Autonomous Cars
- US vs. China
- Technological Unemployment

- The Weaponization of AI
- Drug Discovery
- Government
- AGI (Artificial General Intelligence)
- Social Good
- Conclusion
- Key Takeaways

## 10. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task
- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

### Lab Tasks

- Exploring AI History and Key Concepts

- Understanding and Managing Data Types Effectively
- Reviewing Machine Learning Concepts
- Exploring Deep Learning Concepts and Challenges
- Enhancing Operational Efficiency through Robotic Process Automation
- Revising NLP Concepts
- Transforming Work with Robotics and AI
- Deploying AI Systems
- Charting AI's Transformation

## Here's what you get



You can't stay away! Get

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