



## **AITI Curriculum & Standards for:**

# **“AI Advanced Training, AITI”**

Minimum of 15 hours of training in at least 5 days

[www.ai-institutes.net](http://www.ai-institutes.net)

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## **1. Overview**

This advanced curriculum is for participants who have completed the AI Foundations Training. It moves beyond a general understanding of AI to focus on the technical and strategic aspects of building, deploying, and managing AI systems in a professional context. The program totals 15 hours of instruction over five days, with a significant emphasis on a hands-on capstone project.

## **2. Curriculum**

### **Day 1: Advanced Model Architectures and MLOps (3 hours)**

#### **Module 1: The Modern AI Stack**

- **Session 1: Understanding Advanced Models (1.5 hours)**
  - In-depth look at Transformer architecture: how it works and its significance in modern AI.
  - Exploring different types of embeddings and their applications.
  - Introduction to **fine-tuning** and **prompt engineering** for specialized tasks.
- **Session 2: Introduction to MLOps (1.5 hours)**
  - The AI lifecycle: from data preparation to production and monitoring.
  - Best practices for **data versioning** and **model versioning**.
  - Introduction to automated pipelines for model training and deployment.

## Day 2: Building Custom Agents and Integrations (3 hours)

### Module 2: Custom Automation and Integration

- **Session 1: Custom Agent Development (1.5 hours)**
  - Understanding the fundamentals of agentic systems and multi-agent workflows.
  - Designing and building simple custom agents using APIs and frameworks like LangChain or Crew.ai.
  - **Hands-on workshop:** Creating an agent that interacts with a third-party API.
- **Session 2: Advanced Integration Techniques (1.5 hours)**
  - Strategies for connecting AI agents to enterprise systems.
  - Exploring pre-built connectors and custom API integrations.
  - Ensuring security and data privacy in integrated systems.

## Day 3: AI Deployment and Monitoring (3 hours)

### Module 3: From Lab to Production

- **Session 1: AI Deployment Strategies (1.5 hours)**
  - Overview of deployment environments: cloud, on-premises, and edge computing.
  - The importance of model optimization for production environments (e.g., model compression).
  - Setting up a continuous integration/continuous deployment (CI/CD) pipeline for AI.
- **Session 2: Continuous Monitoring and Observability (1.5 hours)**
  - Implementing **real-time monitoring** for model performance and data quality.
  - Detecting and mitigating **model drift** and **data drift**.
  - Setting up dashboards and alerts for system health.

## Day 4: AI Governance and Ethical Frameworks (3 hours)

### Module 4: Strategic Leadership and Responsible AI

- **Session 1: Developing an AI Governance Framework (1.5 hours)**
  - Key components of an enterprise-level AI governance program: **accountability, transparency, and risk management**.
  - Applying the NIST AI Risk Management Framework.
  - The role of an AI ethics committee and stakeholder engagement.
- **Session 2: Managing Advanced AI Risks (1.5 hours)**
  - Conducting **AI risk assessments** and impact analyses.
  - Strategies for mitigating algorithmic bias and ensuring fairness.
  - Compliance with emerging AI regulations.

## Day 5: Emerging Frontiers and Capstone Project (3 hours)

### Module 5: The Future of AI

- **Session 1: Exploring Emerging AI Fields (1.5 hours)**
  - Introduction to multi-modal AI and its applications.
  - Overview of the latest research in **reinforcement learning** and its real-world use cases.
  - Discussion on the future of AI and the rise of autonomous systems.
- **Session 2: Capstone Project Presentations (1.5 hours)**
  - Teams present their AI implementation projects, showcasing the models they've built, the agents they've designed, and their governance strategies.
  - Peer feedback and expert review.

### Additional Activities

- **Advanced Capstone Project:** A multi-day, hands-on project where teams design and prototype a full AI system, from model selection and custom agent creation to a deployment and monitoring plan.
- **Self-Paced Research:** Participants will be given specific research topics on emerging AI trends (e.g., federated learning, explainable AI) to present brief summaries to the group.
- **Case Study Deep Dives:** In-depth analysis of complex, real-world AI projects, focusing on both technical implementation and ethical challenges.

### 3. Binding formal training organization

#### Training duration for “AI Advanced Training, AITI”

- Minimum of 15 hours of on-site face-to-face or interactive online training (including assessment) over a period of at least 5 days

#### Mandatory Details

- **The title** “AI Advanced Training, AITI” can only be used on a certificate with an AITI seal.
- **A training hour** has 60 minutes. Breaks longer than 30 minutes are not counted as training time.
- **A training group** has at least 6 members (counted without assistants or "Artificial Intelligence Master Trainer, AITI").
- **AITI sealed certificates** (sticker with the AITI logo and a unique seal number) are for AITI trainings that have been conducted at least 80% of the time by an approved "Artificial Intelligence Master Trainer, AITI". The remaining up to 20% of the training can be conducted by another highly qualified person under the supervision of an “Artificial Intelligence Master Trainer, AITI”. The training content in this curriculum here needs to be covered. More in addition is always welcome. The list of seal entitled "Artificial Intelligence Master Trainer, AITI" is here: [www.ai-institutes.net/users/all/mastertrainer?](http://www.ai-institutes.net/users/all/mastertrainer?)
- **Optional interactive online training:** All “Artificial Intelligence Master Trainer, AITI” may use **online interactive** training (e.g., Zoom with breakout groups) as long as they specifically write the number of days and hours that were online in the text of the certificate.
- **Optional non-interactive online training hours** (asynchronous training), up to 20% of course hours, are only allowed for Master Trainers who have received a written approval from our online commission. To submit your request for approval, please write to [office@in-ici.net](mailto:office@in-ici.net)  
Details are here: [www.ai-institutes.net/blog/commissions/commission-online-training](http://www.ai-institutes.net/blog/commissions/commission-online-training)

#### Optional Details

- With more than 10 participants, it is highly recommended to involve an assistant who must be qualified at least at the level of the training.
- We recommend individual or group supervision, buddies, peer coaching, and intervention.

#### “Artificial Intelligence Master Trainer, AITI” can order seals in their login area.

The options are:

1. our wonderful designed online certificate (you find for this a video in your login area)
2. jpg or png seals that you can print on your own certificates
3. physical seals (the old and most inconvenient time-consuming way by snail mail)

## 4. Guidelines for certificates

### The AITI certificate for: “AI Advanced Training, AITI” must include:

1. **the correct title** of the qualification: “AI Advanced Training, AITI”
2. **Duration, Entrance Qualification, optional Online Training**,  
The **duration** of the face-to-face training with precise information regarding training days and hours (at least 15 hours in 5 days), plus the required **entrance qualifications** (if one is required)  
**If interactive online training** was used, the precise number of hours and days of the interactive online training part must be stated on the certificate.  
**If non-interactive online training was used**, the “Artificial Intelligence Master Trainer, AITI” needs a written allowance from the online commission for this, and the precise number of hours and days of the interactive online training part must be stated on the certificate. Here is the Online Commission with more details: [www.ai-institutes.net/blog/commissions/commission-online-training](http://www.ai-institutes.net/blog/commissions/commission-online-training)
3. **the date** of the first and last day of the training
4. **a statement** that all AITI guidelines have been met  
We recommend for 2. to 4. the following 2 sentences on the certificate:  
The training consisted of 15 full hours in 5 days of on-site, face-to-face training, from ...(date of first day) to ...(date of last day), in strict accordance with the high ethics and quality standards of the Artificial Intelligence Training Institutes (AITI).  
**If a mixture** of on-site face-to-face training and interactive online training was used, we recommend the following 2 sentences on the certificate:  
The training consisted of ... full hours in ... days on-site face-to-face training and ... full hours in ... days interactive face-to-face online training, from ...(date of first day) to ...(date of last day), in strict accordance with the high ethics and quality standards of the Artificial Intelligence Training Institutes (AITI).
5. **the AITI seal** (sticker with AITI logo and seal number)
6. **the signature** of the "Artificial Intelligence Master Trainer, AITI" (with place and date)

**Training content for the qualification:** We highly recommend listing the complete trained main content and the complete amount of training hours and days that are needed for the certified qualification in Artificial Intelligence on the backside of the certificate or on a separate signed document.

#### The following statement is optional for an AITI sealed certificate:

"Because of the high quality of this training, it may be recognized as ECTS credit points in academic studies in psychology with a focus on Artificial Intelligence."

#### Free membership with a sealed certificate

We highly recommend that you motivate your training participants to become a member for free. No admission fee and no yearly membership fee forever. Really, totally free of cost. Registration has many advantages. First of all, it supports your marketing when members who come from you are listed in your profile. The benefits for the participants are listed here: [www.ai-institutes.net/about/benefits](http://www.ai-institutes.net/about/benefits)

**In the Certification Guidelines**, you find more details and the options for how sealed training participants can get their forever free of costs membership profile: [www.ai-institutes.net/pdf/guidelines.pdf](http://www.ai-institutes.net/pdf/guidelines.pdf)

## 5. Benefits for Master Trainers and their training participants

### The most important advantages for our Master Trainers

1. **Marketing:** Joint marketing ensures high awareness and measurable success.
2. **Quality and ethical standards:** Worldwide standards create trust and credibility.
3. **Exchange of experiences:** Mutual learning promotes knowledge and competence.
4. **Projects & Synergies:** Working together on big goals leads to extraordinary successes.
5. **Cooperation instead of competition:** Joint action strengthens our community.
6. **Free profiles:** Participants receive free profiles, thus encouraging exchange.
7. **Live what you teach:** Authentic role models excite and inspire.
8. **University cooperations:** Opportunity for scientific work and further development.
9. **Surveys:** Satisfaction measurements before and after training to monitor success and learn best practices.
10. **Free membership in other associations:** Be active in several of our associations without additional costs. Enjoy our interdisciplinary approach.
11. **Internal forum:** space for exchange and mutual support.
12. **Training management:** Publish courses, invite participants, present training publicly and create certificates online

### The most important Advantages for training participants

1. **Profile design:** Upload specializations, texts, images, link your website and be easily found via the member search. Give feedback on your qualifications and assess their quality.
2. **Exclusive resources:** Access to members-only discussion forums and materials – ideal for knowledge sharing and collaborative projects.
3. **Survey:** Use a questionnaire to measure your life satisfaction and progress before and after training.
4. **World Congresses:** So far, there have been six major in-person world congresses with culturally diverse approaches and inspiring perspectives.
5. **Sense of community:** Join a community that is committed to a more peaceful world and better communication.
6. **Always informed:** newsletters keep you updated with everything important.
7. **Marketing tools:** Use the official logos of our associations for your website.
8. **Anonymous contact system:** Let people contact you without sharing your email address.