



TM306: Artificial Intelligence (AI) for Professionals: The Use of Artificial Intelligence (AI) in Modern and Challenging Times

Training Description:

This intensive four-day training program is designed for technical professionals, engineers, and project managers who wish to understand, implement, and manage Artificial Intelligence (AI) technologies in dynamic and complex environments. The training course will explore practical AI applications, integration strategies, ethical considerations, and the role of AI in digital transformation across industries. The training course blends theory with hands-on case studies to ensure participants can relate AI technologies to their work functions and future projects.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand fundamental concepts and evolution of Artificial Intelligence
- ✓ Identify key AI technologies and their relevance to engineering and project management
- ✓ Analyze and evaluate real-world use cases of AI across industries
- ✓ Apply AI tools in problem-solving, forecasting, and decision-making scenarios
- ✓ Recognize ethical and governance challenges in AI deployment
- ✓ Develop a roadmap to incorporate AI within their organizational or project contexts

Training Designed for:

This training course is intended for Engineers (Electrical, Mechanical, Civil, Software, etc.), Project Managers and Technical Leaders, Innovation Officers and Technology Consultants, IT Professionals involved in systems and data strategy and Digital Transformation Teams.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ **Introduction to Artificial Intelligence & Modern Applications**
 - The Evolution and Landscape of AI in Industry 4.0 and 5.0
 - Core Concepts: Machine Learning, Deep Learning, NLP, Computer Vision
 - AI vs Automation: Myths and Realities
 - AI Applications in Engineering, Energy, Construction, Manufacturing
 - AI in Project Management: Risk Mitigation, Scheduling, Budgeting
 - Tools and Platforms (e.g., TensorFlow, Azure AI, ChatGPT, AutoML)
- ❖ **Exercises:**
 - Industry case studies
 - Interactive discussion: “Where AI is already changing your field”

DAY TWO:

❖ Machine Learning, Data and AI Project Lifecycle

- Types of Machine Learning: Supervised, Unsupervised, Reinforcement Learning
- Data as the Foundation: Collection, Cleaning, Annotation, Bias
- AI Model Lifecycle: Design, Train, Test, Deploy
- AI in Predictive Maintenance, Quality Control & Design Optimization
- How AI supports project forecasting and decision-making

❖ Exercises:

- Walkthrough of an AI tool (e.g., Google Colab or Azure ML Studio)
- Group Exercise: Build a simple predictive model using sample datasets

DAY THREE:

❖ AI Integration in Projects & Industry-Specific Use Cases

- AI in Smart Infrastructure and Smart Cities
- AI for Energy Management and Renewable Systems
- AI for Supply Chain and Logistics Optimization
- Embedding AI in Engineering Systems (Edge AI, IoT Integration)
- AI Project Planning: Skills, Stakeholders, Budgeting

❖ Exercises:

- Team breakout: Develop a mini project proposal using AI to solve a specific engineering challenge
- Expert session or guest speaker (optional): Real-world AI deployment story

DAY FOUR:

❖ Ethics, Governance & Future Outlook of AI

- Ethical Use of AI: Bias, Privacy, Transparency
- Global Standards and Regulations (e.g., EU AI Act, IEEE, ISO)
- AI Risk Assessment and Mitigation
- Building Responsible and Trustworthy AI Systems
- Future Trends: Generative AI, Explainable AI, Human-AI Collaboration
- Developing an AI Strategy in your Organization

❖ Exercises:

- Debate: "Will AI Replace Engineers or Empower Them?"
- Final group presentation: AI Application Proposal for your organization

❖ Feedback & Q&A session

❖ Course Conclusion

❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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