COURSE SYLLABUS

AI in Government Asset Management

This course equips government professionals with a practical understanding of how artificial intelligence (AI) is transforming public-sector asset management across the full asset lifecycle. Participants learn how to apply AI concepts such as predictive maintenance, smart inventory, and computer vision to improve accountability, efficiency, and data-driven decision-making.

Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://www.graduateschool.edu/courses/ai-in-government-asset-management



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Course Outline

Module 1: Foundations of Government Asset Management

- Define what constitutes a government asset across buildings, vehicles, IT equipment, infrastructure, machinery, and public safety equipment.
- Describe the asset lifecycle from acquisition and deployment through maintenance, transfer, disposal, and replacement.
- Explain why disciplined asset management supports taxpayer accountability, budget optimization, and audit readiness.
- Recognize how strong asset practices contribute to operational continuity and risk reduction.

Module 2: Current Challenges in Public-Sector Asset Control

- Identify common problems such as inaccurate inventories, missing assets, and reliance on manual spreadsheets.
- Examine the impact of deferred maintenance, poor utilization visibility, and aging infrastructure.
- Discuss the role of data silos and compliance reporting burdens in limiting accountability.
- Recognize cybersecurity risks associated with smart and connected public-sector assets.

Module 3: AI Applications in Government Asset Management

- Explain how predictive maintenance uses sensor data and service history to anticipate failures.
- Describe smart inventory management and AI-driven reorder and utilization recommendations.
- Apply computer vision, barcode/RFID automation, and drone inspection concepts to asset tracking.
- Identify how AI supports fraud and waste detection, including duplicate purchases, unused subscriptions, and ghost assets.
- Describe how AI models inform budget forecasting and capital replacement planning.

Module 4: Current Case Studies

- Examine smart city asset monitoring programs and the use of sensors and analytics for utilities and infrastructure.
- Review federal real property modernization efforts that use centralized digital records to improve building utilization.
- Explore digital twin programs that support long-term planning and predictive maintenance for roads and utilities.

- Analyze municipal fleet optimization initiatives that combine telematics and AI to improve performance and reduce costs.

Module 5: Practical Exercises and Workshops

- Rank a sample portfolio of public-sector assets by mission risk and replacement priority.
- Complete an AI readiness scorecard covering data quality, leadership support, IT integration, and budget.
- Design an AI pilot project with defined asset type, problem statement, expected savings, timeline, and risks.
- Apply structured judgment to evaluate where AI adds value and where human oversight must remain primary.

Module 6: Roadmap for Implementation

- Begin with data quality by correcting inventory records before introducing AI tools.
- Start small by piloting one asset category to validate approach and return on investment.
- Measure outcomes through savings, uptime, and labor reduction metrics.
- Scale responsibly after pilot success while maintaining governance, privacy, and cybersecurity safeguards.