Advanced GIS for Urban Planning Professionals Training Course

14 - 18 Dec 2026

Munich

5100 € (Per Person)

Ref: #CAD7867_60750

Course Introduction / Overview:

This training course is designed to equip urban planners, city managers, and community development specialists with the strategic and technical skills needed to master GIS for urban planning. The ability to analyze, visualize, and manage location-based data is a critical factor for informed decision-making on urban development, infrastructure, and resource allocation. This program, offered by BIG BEN Training Center, provides a comprehensive framework for understanding the core principles of geospatial analysis, from various data modeling and spatial statistics techniques to zoning analysis and land use mapping. We will explore key concepts such as remote sensing data, urban growth modeling, and the use of GIS software. The curriculum is informed by the academic work of authors like Michael N. DeMers, whose book, Fundamentals of Geographic Information Systems, provides a foundational and detailed understanding of the principles behind effective spatial data analysis. This course goes beyond a simple overview of tools to provide a deep understanding of how to implement real-world solutions that ensure data accuracy, analytical rigor, and long-term value. We prepare participants to be leaders who can build more efficient and innovative urban initiatives.

Target Audience / This training course is suitable for:

- Urban planners.
- City and regional managers.
- Public works directors.
- Civil and transport engineers.
- Community development specialists.
- Real estate developers.
- Environmental consultants.
- Government agencies and equivalents.

Target Sectors and Industries:

- Urban and Regional Planning.
- Real Estate and Land Development.
- Public Works and Infrastructure.
- Transportation.
- Environmental Management.
- Social Services.
- Economic Development.
- Government and public administration agencies.

Target Organizations Departments:

- Planning and Development.
- Public Works.
- Housing and Urban Development.
- Environmental Services.
- Economic Development.
- Transportation.
- Strategic Planning.
- Research and Analysis.

Course Offerings:

By the end of this course, the participants will have able to:

- Apply advanced GIS principles for urban planning.
- Perform geospatial analysis for site selection.
- Conduct land use mapping and zoning analysis.
- Utilize remote sensing data for urban change detection.
- Master spatial statistics for trend analysis.
- Develop a comprehensive urban growth model.
- Ensure data quality management.
- Produce professional maps and reports.

Course Methodology:

This training course uses a highly practical and case-study driven methodology. The program is built on real-world examples of successful GIS applications in urban planning. Participants will work in teams to perform a spatial analysis for a hypothetical urban redevelopment project, applying the tools and frameworks learned in the course. We will use interactive workshops to practice skills like data modeling and creating a custom map layout. The curriculum is designed to be a collaborative experience where participants can share their unique challenges and innovative solutions. Our trainers, with extensive experience in the field, will provide direct feedback and guidance throughout the course. BIG BEN Training Center is committed to providing a dynamic and practical learning environment, ensuring that participants leave with the skills and confidence to effectively perform geospatial analysis.

Course Agenda (Course Units):

Unit One: Foundations of GIS for Urban Planning

- The value of GIS in urban planning.
- Advanced geospatial analysis concepts.
- Understanding urban growth modeling.
- The importance of data quality management.
- Case studies in urban GIS.
- The role of location intelligence.
- Strategic planning with GIS.

Unit Two: Data Acquisition and Management

- Using remote sensing data.
- Working with LiDAR data.
- Integrating data from different sources.
- Creating and editing a geodatabase.
- Data validation and cleaning.
- Best practices for data management.
- Ensuring data integrity.

Unit Three: Spatial Analysis Techniques

- Performing a zoning analysis.
- Advanced spatial statistics.
- Network and route analysis.
- Site suitability analysis.
- Using buffer and overlay tools.
- Modeling future land use.
- Analyzing urban sprawl.

Unit Four: Visualization and Cartography

- Advanced cartography.
- Designing a compelling map layout.
- Using different color schemes.
- Creating interactive web maps.
- Data visualization for public presentations.
- The power of a story map.
- Communicating complex data simply.

Unit Five: Strategic Application and Future Trends

- Developing a GIS strategy.
- Workflow optimization.
- The future of GIS technology.
- Digital twins for smart cities.
- Career pathways for urban GIS specialists.
- The value of integrated planning.
- Leading with data.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can a deeper understanding of GIS for urban planning and a proactive approach to geospatial analysis empower professionals to move beyond traditional methods and become strategic leaders in creating more equitable, sustainable, and innovative urban environments?

What unique qualities does this course offer compared to other courses?

This training course is unique because it provides a dedicated, strategic focus on GIS for urban planning professionals. While other programs may cover general GIS, our curriculum is designed to empower professionals with the specific skills needed to address the unique challenges of the public sector, from conducting zoning analysis to creating an urban growth model. The program is a hands-on experience, with exercises that directly simulate the challenges and decisions involved in a real-world urban development project. We go beyond theoretical concepts to provide a clear, actionable roadmap for balancing the demands of a complex project with the imperative of delivering a successful and well-documented outcome. This course is for professionals who want to lead their organizations toward a more efficient, profitable, and innovative future.