



**METROPOLITAN
COLLEGE**
**GLOBAL
UNIVERSITY
HUB**

Master's in Global BIM

Management for Infrastructure Projects

DUAL DEGREE AWARDED BY



Institut de Formació Contínua-IL3
UNIVERSITAT DE BARCELONA



ZIGURAT
INSTITUTE OF TECHNOLOGY

DELIVERY PARTNER



Online University Degrees

Programme Overview

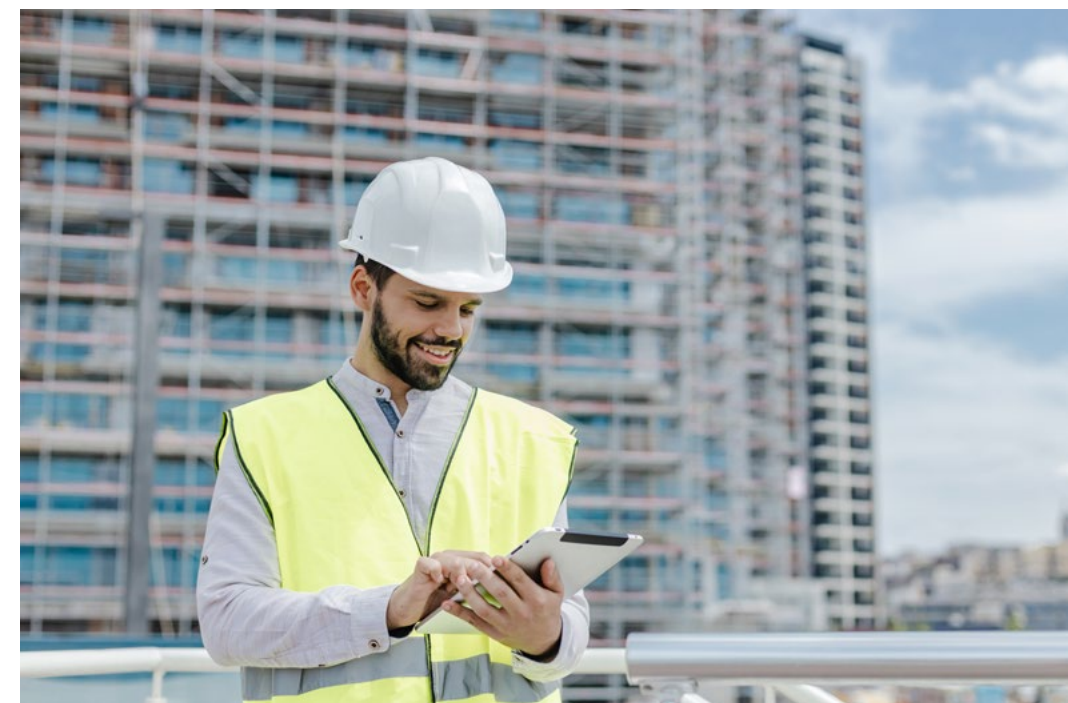
Online Master's programme with dual degree between
Institut de Formació Contínua-IL3 | Universitat de
Barcelona and Zigurat Global Institute of Technology

BIM methodology is rapidly expanding and advancements in technology are being made across all disciplines. BIM is utilized by numerous professionals in the AECO industry: designers, modelers, architects, engineers, contractors, developers, managers and senior executives, among many others.

The infrastructure sector is on the front line of this new paradigm, with BIM already offering significant savings of cost and time for road/highway, rail, bridge and tunnel, and utility professionals. It is estimated that within the next 10 years, the entire global industry will be working with this revolutionary methodology. Professionals who adopt this new way of working, sooner rather

than later, will experience the greatest return on their investments, becoming leaders in the field who are able to guide the industry towards this change.

A BIM Manager is one of the most sought after professions in the AECO sector. This program is brought to the Greek Market with attractive new flavors to all architects and engineers working in Greece and the region. This edition will be the first one offered by the newly established “Metropolitan College/AIDIGITS BIM Academy” (MCAID BIM Academy).



One of the best training programs in the e-learning industry

Make a difference as a technological leader

Designed to convert engineers, architects and constructors in technological leaders and BIM Managers in the infrastructure industry. It is also the first programme created exclusively for Corporate Services. The professionals will acquire the most demanded ability nowadays: the know-how to implement the BIM methodology in organizations and manage all processes, equipment and workflows involved.

Key information

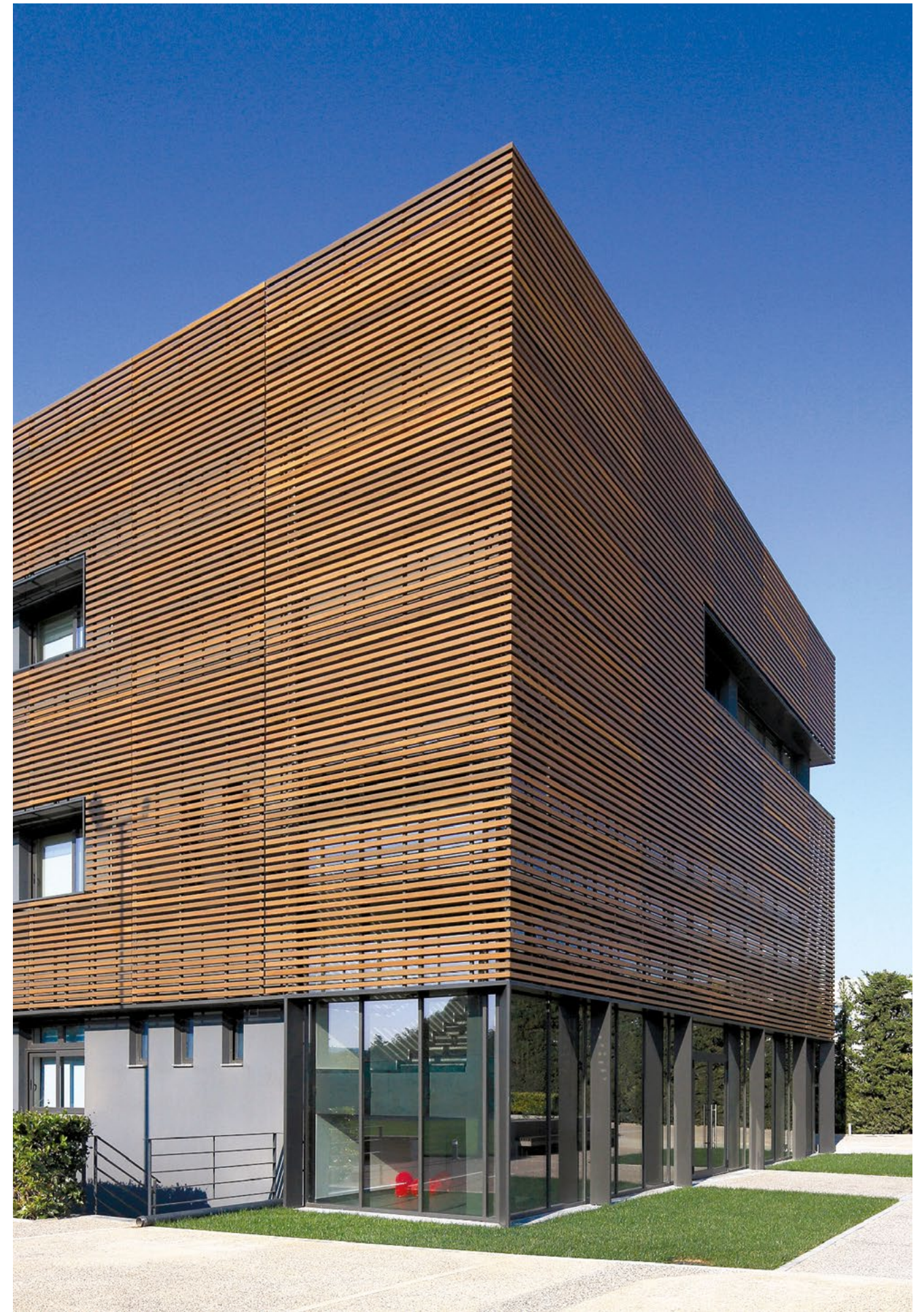
Duration: 1 academic year

Mode: 100% ONLINE +
Optional In-Person Sessions

Structure: 4 Blocks

Language: English

Location: Metropolitan
College Global University Hub,
Maroussi Campus, Greece



A world top Master's Degree with the exclusive collaboration of 4 distinguished organizations

Seize the opportunity to participate in the Master's in Global BIM Management for Infrastructure Projects, which will be delivered for the first time in Greece, as a result of the exclusive collaboration among AIDIGITS Group, Zigurat Institute of Technology, Institut de Formació Contínua-IL3 | Universitat de Barcelona and Metropolitan College Global University Hub.

ACCREDITATIONS AND MEMBERSHIPS



SOFTWARES



The best University in Spain



The Institut de Formació Contínua-IL3 | Universitat de Barcelona is the Spanish university with the highest score in the independent QS ranking. It has sixteen faculties, ten affiliated centres and a doctoral school through which all its academic programmes are run. It also has a Science Park, a Science and Technology Centre service, seventeen research institutes, over five hundred research groups and nearly six thousand researchers. With sixteen libraries and a hundred thousand square metres dedicated to health and sport, the Institut de Formació Contínua-IL3 | Universitat de Barcelona offers a wide range of services. Nearly seven thousand square metres of developed space are available to the largest university community in Catalonia.

Beyond future education



Ziggurat Global Institute of Technology is the best online global architecture and engineering school of 2022 (Corporate Vision Magazine's Education & Training Awards). The name of the institute was inspired by Ziggurat, one of the first Mesopotamian archeological constructions. The Ziggurat symbolizes, better than anything else, the history of engineering, architecture, knowledge and technological transformation. Today, Ziggurat continues to look into the future to prevail as a virtual face-to-face polytechnic school of global reference. On this path, it is accompanied by professionals from all over the world: from academic partners of worldwide reputation to a valuable teaching team, made up of experts active in the field, and, of course, its Alumni community of thousands of professionals of over 100 nationalities.



Hands-on experience on BIM Technology



AIDIGITS is a group of EMEA Organizations that have been established to enable the continuity and expansion of their skilled executive Engineers to provide professional services in the Middle East, Europe and Africa. AIDIGITS capitalizes in its operations its extensive background, diversification of capabilities and expertise in the field of BIM, Project controls, Systems integration, ITWINS, Smart buildings, Smart infrastructures and Projects knowledge coupled with a backbone of unique experts and competent Engineers who possess more than 25 years of hands-on experience on BIM Technology applications around the Globe.

Greece's largest University Hub



Metropolitan College Global University Hub is the region's largest University Hub, home to key global education institutions, offering diverse academic and professional programs to choose from. At Global University Hub, one of our strategic priorities is to add value to executives and organizations by offering a range of flexible Executive Education options, which facilitate academic and industry engagement and transform executives into creative leaders with a global outlook.

Benefits

1. Gain experience in BIM management while working on advanced mega projects in the world. Online or on site visits to the BIM centers of mega infrastructure projects.
2. Follow the steps of a real project life cycle during your learning journey and gain a comprehensive vision of information management in BIM.
3. Acquire the necessary skills to design and model infrastructures, using BIM collaboration cloud platforms.
4. Specialize in an infrastructure typology of your preference and develop your expertise in: Roads & highways, Railways & metro lines, Tunnels & bridges, Subsurface utilities, Buildings of any size and complexity.
5. Focus on BIM interoperability in the context of infrastructure projects.



- Head BIM
- BIM Manager
- BIM Technician
- BIM Coordinator
- BIM Consultant
- BIM Product Designer
- BIM Modeller
- BIM Designer
- BIM Engineer

Learning Outcomes

Upon completion of this course, you will be able to:

- Know and deal with the most innovative BIM tools and software, having a critical view of the technological options in view of the project requirements and according to the studied typologies.
- Become an interoperability expert, knowing your criteria and the workflows involved, identifying appropriate methodologies, as well as optimizing work processes.
- Select and work with different levels of information (LOD) for each phase of the project.
- Manage and administer information and documentation of projects in the cloud for each of the functions.
- Establish a collaborative dynamic using BEP and tools for the correct communication of the different functions of the project.
- Acquire a solid understanding of the entire life cycle of infrastructure for the environmental impact, sustainable decision making and formal asset management techniques.



Academic Content

Participants on this course complete four blocks over one year.



Block 1: BIM Ecosystem and Fundamentals

- M1.BIM Ecosystem & Key Concepts
- M2.BIM for Infrastructure
- M3.Authoring Platform Environment

Block 2: Advanced BIM Modeling

A. ROADS AND HIGHWAYS

- M0. BIM Authoring
- M1. Road Fundamentals
- M2. Earthworks Modeling Calculations
- M3. Horizontal and Vertical Alignment
- M4. Roads and Highways Modelling
- M5. Advanced topics in Highway Modelling
- 6. GIS Authoring

B. BRIDGES & TUNNELS

- M0. BIM Authoring
- M1. Tunnels Fundamentals
- M2. Earthworks Modeling Calculations
- M3. Bridges Fundamentals
- M4. Tunnel BIM Modelling
- M5. Bridge BIM Modelling
- 6. GIS Authoring

C. RAIL & METRO LINES

- M0. BIM Authoring
- M1. Rail Fundamentals
- M2. Earthworks Modelling Calculations
- M3. Horizontal and Vertical Alignment
- M4. Cross Section Modelling
- M5. Rail advanced topics
- 6. GIS Authoring

D. SUBSURFACE UTILITIES BIM DEVELOPMENT

- M0. BIM Authoring
- M1. Subsurface Utilities Engineering, Fundamentals & Authoring Platform Environment
- M2. Modeling Wet & Dry Utilities
- M3. Features Definitions
- M4. Advanced Units in SUE
- M5. Utility Buildings
- 6. GIS Authoring

E. BUILDINGS

- M0. BIM Authoring
- M1. Buildings Fundamentals
- M2. Structural
- M3. Architectural
- M4. Mechanical Buildings and Services
- M5. Electrical Buildings Services
- 6. GIS Authoring

Block 3: BIM-based Advanced Project Controls

- M1. BIM for Construction – Requirements and Documentation
- M2. BIM Based Scope Management
- M3. Quality Control Methodologies
- M4. Integrated BIM Implementation & Design Coordination
- M5. Planning & Site Logistics
- M6. Advanced Project Controls System Fundamentals
- 7. BIM Based Visual Project Controls using CellBIM Tool
- M8. Advanced GIS information management topics

Block 4: Master's Final Thesis

This block consists of three (3) modules which will serve as building units for the successful completion and delivery of the participant's final project. The completion of this module is mandatory. All of the software platforms mentioned above will be put into use to meet the needs and requirements of the final project. Evaluation of participants' deliverables will take place at the end of the module, and participants will receive relevant feedback throughout the team and individual sections of the project. Upon successful completion of this module, the participants will have developed skills and abilities in the following areas:

- Time management and time plan creation
- Soft-skills
- Professional skills in the areas of BIM, project controls and project management
- Risk assessment and team project execution

Faculty Board

Issam Elabsi

Program Director and Senior Instructor - CEO, AIDIGITS and AIDIGITS BIM Academy Director

Initiated the BIM approach and methodology in CCC 1997, managing three main centres of excellence for providing BIM, engineering and project controls services with a total number of BIM resources approaching 120 engineers. Developed project controls strategies and BIM implementation plans, procedures and standards. Leading the process of developing QA/QC procedures, methods and tools for the BIM process and BIM designs. Develop and Manage comprehensive GIS systems, high technology surveying systems and civil/infrastructure engineering automation systems. Provided BIM/ project controls consultation services to various reputable organizations and clients. Actively participating in the 5Di group, the ENCORD VCP group, UBA and CIAT. Engaged in several international and regional conferences, events, and knowledge transfer activities for BIM-based systems for construction, post construction, Industry 4.0 and Digital Transformation. Wrote publications and articles in several specialized magazines, newsletters and books. Offering consultation services to international and regional organizations in the field of BIM, GIS, project controls and digital transformation. Currently he is the CEO / Director for Several Establishments providing international BIM and Construction Digital Transformation Services.

Maria Souladaki

Senior Instructor and Academic Coordinator – Civil Engineer M.Sc. and BIM Specialist

A Civil Engineer with 17 years of experience. Working in the area of BIM since 2014 as a BIM Modeler, BIM Team Leader and BIM Specialist. With extensive experience in Development of BIM Execution Plans (BEP), development, management & manipulation of BIM Libraries, development of architectural and Structural BIM Models and BIM models for Fabrication in Level of detail (LOD) 400 using automation tools (VBA). Development of “As built” BIM Models, from Point Cloud. Updating of BIM models according to the latest construction developments. Creating and applying Quality control procedures to check the accuracy of the BIM Models. Creating Design coordination and Clash detection reports. Creating 4D simulations. Extracting quantification reports and creating Bill of Quantities (BOQ) from the BIM Model. Preparation of reports and presentations for the project team.

Amjad El-Masri

Senior BIM / Geomatics Engineer

Extensive experience in implementing advanced geomatics technologies such as Indoor Mobile Mapping System, terrestrial static scanner, UAV and machine control. Responsible for establishing workflows for as-built BIM modelling based on point cloud data. Responsible for developing BIM models for roads, highways and railway infrastructure projects, including:

- Riyadh Metro, Riyadh (Saudi Arabia)
- F-Ring projects, Doha (Qatar)
- Dualization of Adam – Thumrait Road Project (Oman)
- Al Bustan Road, Doha (Qatar)
- Responsible for design and implementation of GIS solutions.

Raed Abdul-Mon’em Hanafieh

Senior Instructor – Senior Consultant (BIM) – Manager AIDIGITS Information Systems Team

Working in the BIM, digital transformation and construction workflows development, automation, and implementation since 2007. Leading AI-Digits BIM automation team. Successfully participated in implementing BIM for the whole project life cycle in many mega projects including buildings, civil, infrastructure, plants, and oil and gas projects with CCC in many roles such as BIM coordinator, Manager and Head of BIM Centre in Palestine for 3 years. Extended experience in defining exchange information requirements, assisting BIM technical needs for various types of projects. Prepared BIM execution plans for many projects, based on ISO19650 and PAS 1192. Designed or developed integration processes between different tools and applications to cater information exchange, interoperability, and automated model authoring, analysis, data appending and reporting. Prepared and provided many professional, and academic courses in the topics of BIM and Digital transformation in construction. Worked on gap analysis to the existing processes and proposing new workflows by integrating BIM and digital transformation methods. Advanced level of command to the most widely used applications of Autodesk and Bentley for the processes of BIM.

Sherouk Elabasi

Teacher Assistant - BIM
Coordinator - BIM Specialist at
AIDIGITS

Employee with a history of summer internships at the CCC, currently working at Zigurat, coordinating academic activities relevant to on campus and online education in participation with strategic education partners. Skilled in Design, Visual Arts, working and learning more through AECOSIM, Open Building Designer and REVIT. With a Bachelor of Arts – BA focused on Visual arts Major, Environmental Studies Minor.

Suhaib Suiliman

Senior Instructor - Information
Systems Integration Specialist /
Gis Expert

Managing Data Transformation: Data transformation/manipulation where it's required to exchange data between different sources, organizations internally and externally. Monitoring end user related issues and required enhancements as per the business requirements, building complex tools for (daily, weekly, monthly, and quarterly) task automation via integrating and bringing different tools together such as python, FME, DB links, Replication, etc. Microsoft Power BI: Carryout all required changes that includes (creating, updating and publishing dashboards as per user requests and business requirements). Manage Enterprise High Available Platforms: Carryout any integration between complex systems such as (Autodesk apps, ArcGIS, Microsoft, Rest APIs, KPIs and DB/DB links) and keep monitoring the integration flow. Bring GIS Platform to the Picture: Act as information specialist while introducing GIS Platforms and capabilities to AI-Digits team members as this will help in bringing new solutions for AI-Digits customers and opportunities, for example integrating BIM with GIS generate simple/custom web-based viewers based on BIM data. ESRI-certified GIS professional with over a decade of experience delivering critical GIS work on major programs and for government entities across UAE such as ADNOC, DEWA, Etisalat, Dubai Police and others. Experienced in designing, maintaining and updating GIS enterprise database systems, converting complex data into information that is easily readable and accessible to a wide audience, creating highly accurate GIS maps and custom GIS (Desktop Tools/Web Applications).

Miltiadis Goudiras

Senior Instructor - Project Director
(BIM)

Civil Engineer professional (MSc. Degree- Imperial College, London, UK, and Integrated MSc. Degree-University of Patras, Greece). Thesis (UK): “The Effect of Strain Rate on Seismic Design Parameters of Offshore Steel Jacket Platforms.” & Thesis (GRE): “Inelastic, Dynamic Analysis of Buildings for Earthquakes.”. Extensive Project Management experience (PMP, PMI-RMP, Prince2), with more than 30-year career track of leading the construction execution of projects (MEK 4th class Building & 3rd Roads certified by Greek MoPW. Effective implementation BIM (RICS-BIM) for projects such as Midfield Terminal Building Abu Dhabi airport (UAE), Riviera Galleria Mall, Hellinikon Development, Athens (Greece), etc. In addition, design creation (building permits) & coordination, planning, and contractual awareness (FIDIC conditions of contracts Red & Yellow books) of diverse projects, such as infrastructure projects (Hangar for Boeing KC135 aircraft Eleusina airport (Greece), etc.), offices (Thales Headquarters in Koropi (Greece), Hellenic Petroleum Headquarters in Athens (Greece), etc.), and residential buildings (block of flats and villas).

Anastasia Tsagka

Instructor - BIM Specialist -
Architectural Engineer Msc

Developer of Information Models and BIM Methodologies for Trade Coordination, Material Take-offs and Project Controls. Production of BIM Execution Plans for Construction and Facility Management. Instructor in CCC BIM Academy (2014-2020). Synchro Certified User. Participation in Projects:

- ADNOC Head Quarters, Abu Dhabi (UAE)
- Al Zahia City Center Mall, Dubai (UAE)
- Msheireb Downtown Doha Project, Doha (Qatar)
- Midfield Terminal Building in Abu Dhabi (UAE)
- Riyadh Metro Project, Riyadh (Saudi Arabia)
- Abu Dhabi Plaza, Astana (Kazakhstan)
- Multipurpose Sports Hall, Lusail (Qatar)

Danai Samara

Teacher Assistant - BIM
Coordinator - BIM Specialist at
AIDIGITS

Hold a BSc degree in Civil Engineering and a MSc degree in Structural Design and Construction Management at Kingston University, U.K. Experienced in the field of BIM Implementation for different applications through the project lifecycle, material quantification, design coordination/clash detection and RFI report process of a wide range of infrastructure projects in Qatar and United Arab Emirates (Pearl GTL, Tadawul Tower and Abu Dhabi Plaza). Studying specifications, design drawings, Bill of Quantities & International Code standards (CSI).

How to contact us

 +30 213 33 30 300

 globalhub@metropolitan.edu.gr

 42 Akadimias St. Athens 10672, Greece

 metropolitan.edu.gr/en/globalhub



 **METROPOLITAN COLLEGE**
GLOBAL UNIVERSITY HUB

DUAL DEGREE AWARDED BY



Institut de Formació Contínua-IL3
UNIVERSITAT DE BARCELONA



ZIGURAT
INSTITUTE OF TECHNOLOGY

DELIVERY PARTNER

