![MedTech - Mediterranean Institute of Technology - SMU]

MedTech
Mediterranean
Institute of Technology

Executive Master BIM & ERP Management

Welcome

President's
message

The strategic location of Tunisia in the heart of the Mediterranean combined with the diversity of its cultural heritage constitute major assets for the development of a regional hub of educational excellence.

It is in this framework that we have developed the South Mediterranean University (SMU).

On behalf of all members of our management team, we want to make your education at SMU a life changing experience and wish you success in your drive for professional excellence.

Mahmoud TRIKI,
Founder & President, SMU

Shape your **future** at MedTech

🏹 Our vision

MedTech aspires to be a regional hub of excellence in engineering education by fostering innovative learning and societal impact.

◎ Our mission

MedTech is committed to train highly qualified engineers capable of contributing and leading innovative ventures in today's globalized world.

💎 Our values

- Diversity
- Excellence
- Integrity
- Creativity
- Care

✓ Major Achievements

- Internationally accredited Engineering programs by ABET
- Partnerships with top ranked universities (University of Michigan, HEC Montréal, Oakland University, etc.)
- State-of-the-art facilities

Our **learning strategy**

MedTech implements an adaptive learning strategy that offers students a life changing experience.

🖥 Digital

MedTech is facilitated with technology, information and instructions that are enhanced using various applications, tools and resources to improve the learning experience.

👥 Active

Our active pedagogy allows our students to be continuously involved in the learning process through individual and group activities, bootcamps, simulation games enabling them to develop a variety of skill sets that differentiate our graduates on the job market.

💼 Interdisciplinary

By combining our curricular objectives to different disciplines, we help our students acquire the knowledge and skills necessary for their personal and professional development.

The **Executive Master in BIM & ERP Management** at a glance

The Building Information Modeling (BIM) and Enterprise Resource Planning (ERP) methodologies have revolutionized the Architecture, Engineering, Construction, and Operation (AECO) industry. Yet there is a shortage of highly qualified practitioners to manage BIM projects. The Executive Master in BIM & ERP Management allows participants to acquire a high level of know-how in the management of processes, equipment, and workflows involved in the construction sector, throughout the entire lifecycle of a building project, from the planning and design phase, to procurement, construction and maintenance stage.

Program at a glance

MESRS

Duration	Courses	Final project
20 months	**13**	**1**

Workshops	Course per month
5	**1**

The Program

The objective of the program is to train professionals from the AECO industry, and equip them with the necessary tools and competencies for management roles in BIM projects.

The program consists of modules and workshops aiming at :
- Providing the knowledge and skills of how BIM and ERP methodologies can be applied across a construction/infrastructure project from conception to demolition.

- Developing critical thinking, leadership, and decision-making skills, and the ability to apprehend strategic decisions dealing with both the technical administration and the execution of a project.

- Developing communication and collaboration skills.

The Format

The Executive Master in BIM & ERP Management is a part-time program, designed to tailor the work and life commitments of participants. Classes meet four days a month (Thursday through Sunday from 9:00 AM to 6:00 PM) over a 17-month period, followed by three additional months dedicated to the final project.

The program key **differential values**

- **Strong methodological approach** facilitated with digital tools to achieve efficient coordination of processes, workflows, people, assets and technology that BIM requires within the AECO sector.

- **openBIM collaborative process** as a sustainable information management approach of the building assets based on open standards and cloud workflows.

- **Tailored learning pathways** to meet the needs of professionals from different sectors of the AECO industry, such as architects, engineers, builders, developers, financiers, asset managers, and facilities managers.

Participant **profiles**

1.

The program is aimed at experienced professionals from the AECO industry who are expected to manage BIM projects, including: architects, engineers, technicians, sub/contractors, manufacturers, and facilities and operations managers.

2.

Good English proficiency is required to enroll in the program. Applicants are interviewed to assess their motivation, potential and capacity to benefit from the program.

3.

Each class is composed of highly diversified participants (activity sector, age, gender, nationality, and educational background) to offer a unique learning experience and opportunities for networking.

Outline of the program

Term **01**

BIM FUNDAMENTALS AND INFORMATION MANAGEMENT

Introduces participants to the basic concepts of BIM and the different information requirements based on the application of protocols and standards for control, feedback and analysis. These standards and protocols are developed at organizational, sector and project level and represent what stakeholders aim to achieve in the BIM project.

OPENBIM AND COLLABORATION PRACTICE

Introduces the Open BIM environment and the main steps of a full BIM workflow. Participants learn how to model, manage documentation and information inside the model, exchange BIM data between different software tools using open data standards, and recognize the importance of collaborative working between different disciplines.

AUTHORING IN DESIGN WITH AUTODESK REVIT

Provides a training for the design and integrated management of BIM models using Autodesk REVIT as an authoring modeling tool for architecture, structures, and mechanical electrical plumbing (MEP).

COORDINATION, COMMUNICATION & INTEROPERABILITY

Covers methodologies related to interoperability and the best practices for coordination and cloud-based communication within a BIM environment. It follows a working methodology based on learning-by-doing through practical case studies, teamwork assignments, and a real project to be carried out at the end of the training.

PROJECT MANAGEMENT

Provides a comprehensive view of Lean principles and tools, and how they can be applied to Project Management. The course includes Agile, Scrum, Critical Chain and Change Management methods, among other concepts, structured into sessions that are focused on a specific theme or methodology, using exercises, real-life case studies and simulations.

DIGITAL LITERACY

Enables participants to become more comfortable with digital tools and simple quantitative methods depending on their needs. Topics covered include data structure, digital workspaces, libraries and research tools, times series, variability, correlation, and simple and multiple regression models. The emphasis throughout the course is on concepts and reasoning, rather than technical details.

Outline of the program

Term **02**

CORPORATE COMMUNICATION

Develops participants' abilities in writing and presenting technical communication in a clear and professional manner. Likewise, participants will develop their ability to comprehend relevant technical communication, written and oral, within their fields.

INFORMATION EXCHANGES THROUGH IFC

Highlights how the exchange of BIM content between different software programs is enabled with Industry Foundation Classes (IFC)-based model files, allowing for a better collaboration between different teams working on a BIM project throughout the entire project's lifecycle.

PRECONSTRUCTION, HANDOVER & 4D/5D STRATEGIES

Present the different aspects of preconstruction and handover using REVIT, including modeling, extraction of bills of quantities (BOQ), commissioning using BIM objects ID, delivery of as built model, and comparison of as built model with executed works. Emphasis is also placed on how to explore the pre-constructed models for interface management, extraction of quantities (5D), and planning management (4D) and synchronization.

PROJECTS TAKEOFF, PLANNING & BUDGET CONTROL

Provides participants with a foundational understanding of the importance of the 4D and 5D in the Construction Industry. Participants learn the process of preparing a strategic plan for the project, including creating a design, securing permits or entitlements, and gathering the labor and resources required for construction.

BIM QUALITY MANAGEMENT

Focuses on the effective use of the BIM Inspection Testing Plan and quality control workflow on a construction project across the project lifecycle. Topics include quality management processes, issue management, and clash detection.

GENERATIVE & PARAMETRIC DESIGN

Introduces the different aspects of Generative Design Using DYNAMO & GRASSHOPER, with a focus on parametric design, data extraction and classification from BIM model, workflow automation, and modelling of irregular shapes.

Outline of the program

Term **03**

STANDARDS FOR ASSET MANAGEMENT

Provides insights on how to manage the progressive information flows, using different open standards throughout the project life cycle, and highlights the best practice for the integration of BIM into asset management processes.

COBIE EXCHANGE PROTOCOLS

Introduces the Construction Operations Building Information Exchange, known as COBie, which is a developing standard for the exchange of data to support facility management by owners and operators.

INTEGRATED BUSINESS PROCESSES

Highlights how the AEC processes can be integrated to the business process within a centralized and unique database to create a single source of information throughout the entire project's lifecycle, and provides a training on core business processes embedded in SAP S/4HANA.

ETHICS & CORPORATE SOCIAL RESPONSIBILITY

Covers the ethical and social issues related to the development and use of technology. It covers topics in ethical theory, and social, political, and legal

considerations of modern technology systems and applications.

INTEGRATED PROJECT DELIVERY

Focuses on a project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the resources to optimize the project outcomes and make buildings more sustainable.

BIM IMPLEMENTATION PLAN

Explores the process for creating and managing information on a construction project across the project lifecycle, including the BIM Execution Plan (BEP) in different international contexts.

Outline of the program

Term **04**

FINAL PROJECT

The final project is a real project simulation-based module integrating courses included in the program to be developed using openBIM approach. This allows the participants to make use of all the knowledge gained throughout the program and enables them to work collaboratively, with a client-oriented approach using different technologies and standardized methodologies, globally used.

"Faculty

DAVID DELGADO VENDRELL

David Delgado Vendrell is architect, entrepreneur at DDV.cat and AECO consultant, specialized in openBIM and Agile frameworks. He is the Technical Coordinator and board member of buildingSMART Spain and an active member of the BIM User Group of Catalonia (GuBIMCat). He also collaborates with the "We Build the Future" Commission of ITEC in Catalonia, representing buildingSMART Spanish Chapter. He has co-authored the BIM classification system "GuBIMclass," an initiative of GuBIMCat and Infraestructures de Catalunya.

DR. BILAL SUCCAR

Dr. Bilal Succar is a strategic advisor and independent researcher focusing on digital performance assessment and improvement in the Built Environment. He is the director of ChangeAgents AEC (ChangeAgents.com.au), a digital transformation consultancy operating out of Melbourne, Australia. Dr. Succar is the Founder of the not-for-profit BIMe Initiative (BIMexcellence.org), a community of 160+ researchers from 42 countries, and the Head Editor of the international BIM Dictionary (BIMdictionary.com) covering 27 languages (including Spanish). Bilal published highly cited academic journals, led prominent BIM education initiatives, and delivered keynote addresses and workshops across the world covering digital transformation and macro-BIM adoption. Dr. Succar's stated mission is to encourage continuous performance improvement, international collaboration, and open knowledge sharing.

DR. KARAMA JERIBI

Dr. Karama Jeribi is an Assistant Professor at MedTech with over 10 years of experience teaching and researching in the field of Industrial Engineering. With a PhD in Optimization of Logistic Systems from Ecole Centrale de Lille, she is a certified Supply Chain expert and Green Belt Lean Six Sigma. Her expertise lies in continuous improvement, lean manufacturing, and management, supply chain and logistics. She has worked on numerous industrial projects in several fields. Her passion for teaching and commitment to excellence has earned her recognition from both students and colleagues.

PROF. DR. ZOUBEIR LAFHAJ

Prof. Dr. Zoubeir LAFHAJ is a Full Professor at Centrale Lille, France. He is holder of the "Construction 4.0" chair, an industrial research chair that deals with the challenges of odernizing the construction industry in France and Europe. Prof. Dr. Zoubeir LAFHAJ's industrial research expertise focuses on (i) additive manufacturing (3D printing) for construction, industrialization and robotization of construction, (ii) applications of AI, blockchain and BIM in construction and finally (iii) value, productivity, quality, lean construction, logistics, and collaboration with all stakeholders in the construction industry.

DR. ONS NAJJAR

Dr. Ons Najjar is an architect, urban designer, BIM manager and academic researcher, with an international experience as a lecturer in the Middle East and Tunisia. Her industrial and research expertise focuses on the importance of digitalization on architecture, encouraged by creativity, innovation and Green Concepts. She is also responsible for developing a strategy for the digital Building concept for sustainable design and management.

DR. NÉJIB CHENNOUFI

Dr Néjib Chennoufi is associate professor of engineering at MedTech. He is dedicated to success with solid multi-disciplinary engineering background with proven managerial experience and abilities. Expert and certified in Agile methods and project management, he has led several teams and projects within a number of international fortune 500 companies for over 12 years. He has worked within the oil & gas context, developing analytical and numerical physics-based models and software solutions. Dr. Chennoufi has led successfully the efforts to obtain the ABET accreditation for the ongoing three engineering programs in MedTech.

DR. AIDA SIALA

Dr. Aida Siala is an Architect, Doctor of architectural sciences, BIM consultant and experienced educator in teaching BIM. She's qualified as Lecturer of the Nationals Schools of Architecture in France and Certified Autodesk Instructor and associated researcher at the MAP-CRIA laboratory. Her research work focuses on digital design with great involvement in themes aiming to develop current BIM practices, through new approaches allowing models verification, optimization and control. Aida is passionate about helping students develop their skills in BIM and preparing them for successful careers in this field.

PATRICIA CERESANI

Patricia Ceresani joined SMU in 2014 and is the Director of the Language and Culture Institute. She is responsible for the Business English and Soft Skills programs for executive training, the Study Abroad Program, and the Communication department at MSB. Patricia has a BA in Modern Languages and a BA in Humanities and Social Sciences. She has a consolidated 30 years of experience in the field of teaching English, Business Communication, and Public Speaking for both the higher education and the corporate sectors. Patricia has worked in many countries worldwide and with several multinationals in Tunisia.