Information Technology Institute

PROFESSIONAL TRAINING PROGRAM

2021/2022

CIVIL ENGINEERING INFORMATICS

Track Overview

People Develop Countries...
We Develop People

Civil Engineering Informatics

DESCRIPTION

ITI – Civil Engineering Informatics(CEI) Specialization - is a product based program that will empower you to learn how to utilize state-of-the-art information and communication technology tools to develop solutions that tackle real-world problems as they arise in the Architecture, Engineering and Construction (AEC) industry.

WHO MAY APPLY

All University Graduates with prerequisites of Bachelor's degree in Engineering discipline related to AEC Industry (Architectural, Civil, Electrical, and Mechanical)

TRACK DURATION

1200 Hours about 9 months (learning and project).

DELIVERY APPROACH

Blended between Self-paced, Synchronous Learning and Guided Practices with a Project Based Focused Journey.

BEFORE YOU APPLY

Candidates will have to complete the following prerequisite courses to join our program:

Civil Engineering Informatics

Graduate Profiles

- Engineering Informatics Specialist
- Engineering Software Developer
- BIM Application Developer
- GIS Application Developer

Required Tools

- Operating Systems: Windows, Linux
- Software Development Tools: Visual Studio Code, Visual Studio 2019, SQL Server, MatLab
- CAD/BIM/GIS Tools: AutoCAD, Revit| SAP2000, ETABS, Tekla Structures., ArcGIS, QGIS.

Track Practices

Candidates may work together in one of the following Suggested Projects:

- Smart Facility Management System.
- Smart City Management System.
- Interactive, Immersive, 3D CAD Modelling Tool.

Civil Engineering Informatics

OVERALL LEARNING JOURNEY OUTLINE

Fundamental Courses

- Operating Systems Fundamentals
- Computer Networks Fundamentals
- Database Fundamentals
- Introduction to Programming
- Object-Oriented Programming Concepts
- Data Structures and Algorithms
- Web Development I – Front-End Development
- Web Development II – Back-End Development

Core Courses

- Scientific Programming with C/C++
- Scientific Programming with Python
- Scientific Computing I - Scientific Software Development
- Scientific Computing II - Numerical Tools & Algorithms
- Scientific Computing III - High-Performance Computing [Elective]
- Engineering Optimization
- Selected Topics in Engineering Informatics
- Computer Graphics I - Mathematics Foundation
- Computer Graphics II - Programming with OpenGL
- Computer Graphics III - Programming with WebGL
- Building Information Modeling I – Fundamentals
- Building Information Modeling II - Design Studio
- Building Information Modeling III - Development Studio
- Geographic Information Systems I – Fundamentals
- Geographic Information Systems II – Geodatabases
- Geographic Information Systems III - Development
- Artificial Intelligence Fundamentals
- Internet of Things Fundamentals

Soft Skills Courses

- Communication Essentials for Professionals
- High Impact Presentations
- Job Seeking Skills

OTHER USEFUL INFORMATION

For more information about this specialization study track, please check our page on Facebook:

https://www.facebook.com/CivilEngineeringInformatics/

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