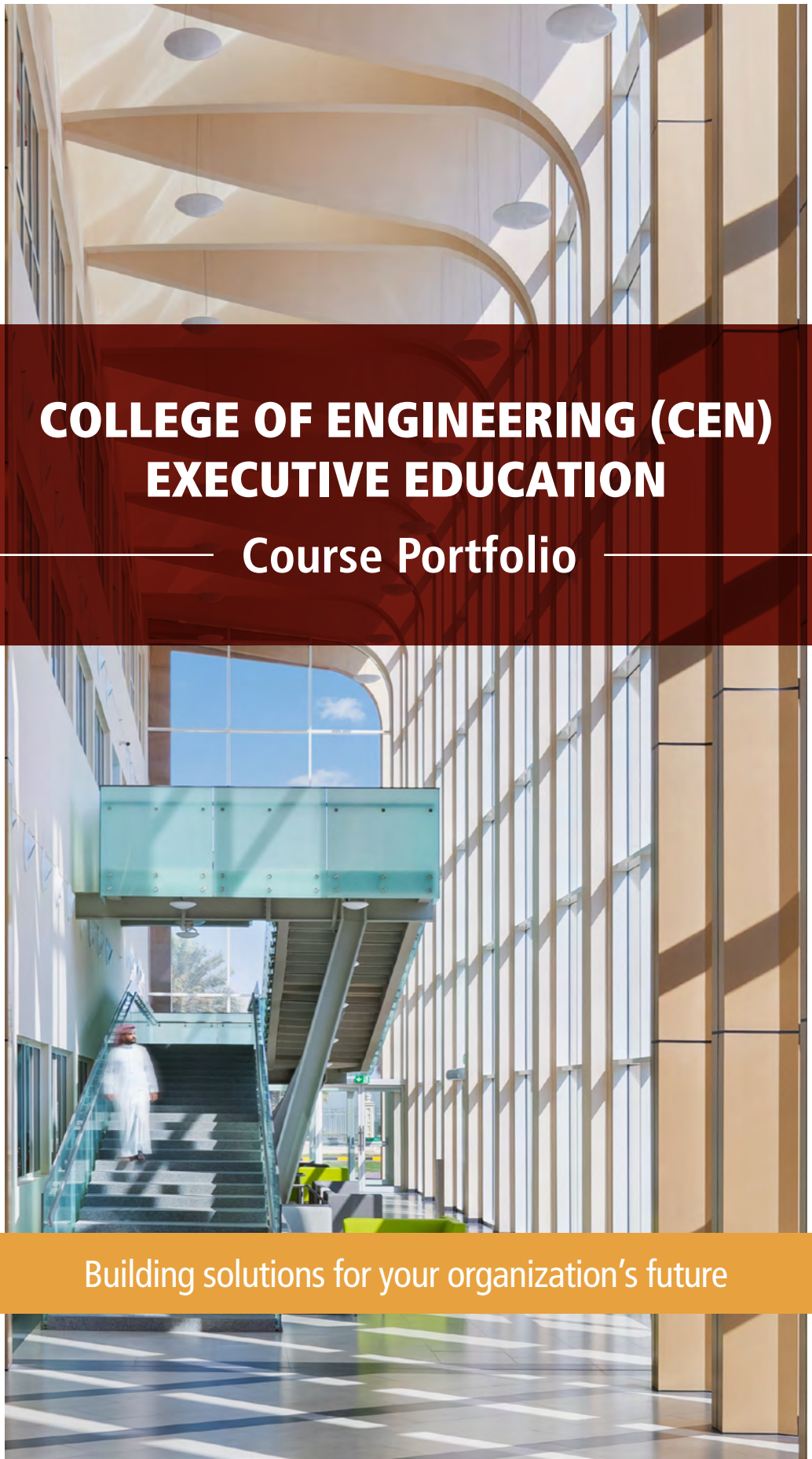
AUS | الجامعة الأميركية في الشارقة
American University of Sharjah



COLLEGE OF ENGINEERING (CEN) EXECUTIVE EDUCATION

Course Portfolio

Building solutions for your organization's future

Executive education designed for, and by, engineers

The College of Engineering (CEN) Executive Education team at American University of Sharjah (AUS) is eager to build a generation of talent that can respond to a new and complex world of work and ways of doing business. As the economies of the GCC diversify and investments are made to create new knowledge-based industries, never has it been so important to craft a collection of engineers, employees and leaders who will pioneer change and champion innovation.

CEN Executive Education recognizes that no two organizations are the same when it comes to skills development—every organization has its own unique challenges and opportunities. By working with CEN Executive Education team at AUS, you can customize a professional program that is right for your organization and the talent within it. Our experts can design training programs across all levels in your organization—from your newest engineers and recruits identified as talent to your experienced managers. Read on to learn about the specific areas of expertise we can offer your organization.

Applied Energy
- Energy systems
- Energy conservation and management
- Design of CSP systems for smart cities
- Natural gas and oil pipelines
- Propulsion systems
- Thermal energy storage
- Power plants operation
- Safety of boiler operation
- Pumps and compressors
- Combustion and flames

Artificial Intelligence and Optimization
- Deep machine learning
- Artificial intelligence for smart cities
- Machine learning in IoT applications
- Introduction to optimization
- Advanced optimization
- Introduction to metaheuristic optimization

Autonomous Systems
- Mobile robots
- Feedback control
- Adaptive control

Computer Science and Computer Engineering
- Mobile application development using android
- Smart Cities enabling technologies and applications
- An introduction to Field Programmable Gate Arrays (FPGAs) with applications
- Cyber security awareness

Construction Engineering and Management
- Cost estimating and analysis
- Project cost control and earned value analysis
- Critical Path Method (CPM) scheduling
- Construction planning and control
- Building information modeling
- Construction project risk management
- Construction contracting
- Construction safety management

Construction Materials and Sustainable Concrete Technology
- LEED and Estidama ratings
- 3D concrete printing
- Application of nanomaterials in structural concrete
- Design of sustainable concrete with service life analysis

Drones Design, Piloting and Manufacturing
- Drone design and manufacturing certification
- Drone piloting certification
- Application of drone technology in construction

Dynamics and Control
- Estimation and sensor fusion
- Robotics and autonomous systems
- Micro-electromechanical systems (MEMS)
- Nano-electromechanical systems (NEMS)
- Mechanical vibrations
- Mechatronics
- Aerial manipulators
- UAV and drones

Engineering Management and Leadership
- Project management
- Project Management Professional (PMP) Certificate
- PMP certification exam preparation course
- Engineering financial management
- Engineering cost accounting
- Data analysis
- Engineering analytics
- Influencing, persuading and effective negotiation for engineers in practice
- Startup companies: A simple guide for UAE academics and engineers
- Engineering ethics

Geotechnical Infrastructures
- Foundation engineering
- Design of retaining and earth structures
- Pile foundation
- Problematic soils and ground improvement
- Dam engineering
- Trenchless technologies
- Dynamics of machine foundations

Healthcare Management
- IE in healthcare
- Project management in healthcare
- Six Sigma in healthcare
- Lean for healthcare
- Process improvement in healthcare
- Data analytics in healthcare

Industrial Safety
- Chemical process safety fundamentals
- Process safety management
- Chemical reactivity hazards

- Fire safety
- Toxic release and dispersion modeling
- Design of pressure relief systems
- Inerting and purging systems

Maintenance
- Planning, scheduling and management of maintenance operations
- Reliability centered maintenance
- Maintenance planning and control
- Predictive maintenance

Manufacturing and Design
- 3D printing and beyond
- Computer-aided manufacturing
- Computer-aided design
- Sustainability of manufacturing processes
- Manufacturing of non-metal materials
- Non-destructive testing evaluation
- Composite materials
- Smart materials

Medicine
- Nanomedicine
- Biochemistry
- Drug delivery

Nondestructive Testing and Evaluation
- Non-destructive testing of existing structures
- Non-destructive testing and disposition of in-services flaws

Power and Energy Systems
- Electrical energy conversion
- Electric power distribution
- Power system analysis
- Power system protection
- Residential electrical wiring

Process Control
- Process simulation using HYSYS/ASPEN Plus

Quality Management
- Quality engineering
- Yellow Belt Six Sigma
- Green Belt Six Sigma
- Lean Six Sigma
- Failure analysis

Renewable Energy and Smart Grids
- Renewable and sustainable energy
- Power conversion in photovoltaic energy systems
- Power conversion in wind energy systems
- Power conversion in geothermal and biomass energy systems
- Transportation electrification
- Fundamentals of smart grids
- Operation of distributed energy resources in smart grids
- Planning of distributed energy resources in smart grids
- Integration of renewable resources in electricity market
- Technical and economic analysis for solar energy projects
- Technical and economic analysis for wind energy projects
- Technical and economic analysis for hydro power projects
- Design of renewable energy systems

RF Engineering
- RF and microwave circuits and systems design and prototyping
- RF and microwave test and measurements
- RF systems: fundamentals, design and measurements
- Decrypting radio design and measurements
- Electromagnetics, microwaves systems, measurements and calibration, and radar systems

Structural Engineering and Computational Mechanics
- Reinforced concrete design
- Prestressed concrete design
- Structural steel design
- Highway bridge design
- Strengthening and rehabilitation of concrete structures
- Fundamentals of structural dynamics
- Structural earthquake engineering
- Analysis and design of tall buildings
- Software training on SAP2000 and ETABs
- Computer methods in structural analysis
- Finite element analysis using ANSYS and ABAQUS software
- Basics of nonlinear finite element analysis
- Structural fire engineering

Supply Chain Management
- Certified in Production and Inventory Management (CPIM 7.0 ASCM)
- Certified Supply Chain Professional (CSCP ASCM)
- Certified in Logistics, Transportation and Distribution (CLTD)
- Basics of supply chain management
- Supply chain management
- CRM and SRM
- Continuous improvement (Lean, Six Sigma, TOC, TQM)
- Basics of inventory management and control
- Inventory management and control
- Basics of warehousing management
- Warehousing management
- Global sourcing
- Distribution and logistics
- Predictive analytics

Technology and Information Systems
- 5G and beyond
- IoT devices and their applications
- Good PCB design
- Practical OpAmp design made simple
- PCB fabrication
- Troubleshooting electronics: Why is it not working?
- Foundations of integrated circuit design
- Implantable chips: Myths and realities
- Basics of satellite communications
- Basics of radar systems
- Radar systems for automotive and drone industries
- Sensors and sensor network

Transportation Systems, Geographic Information Systems (GIS), Remote Sensing and Smart Infrastructure
- Traffic engineering
- Highway engineering
- Transportation planning
- Airport planning and design
- Geographic Information Systems (GIS)
- Satellite remote sensing
- Intelligent transportation systems
- Smart civil infrastructure

Water, Environmental and Sustainability Engineering
- Coastal engineering
- Water distribution and wastewater collection systems
- Water infrastructure management
- Waste water treatment
- Environmental sustainability
- Fundamentals of ionic liquid technology
- Electrochemical applications
- Desulfurization technology

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To discuss a customized training program for your organization, contact:

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About CEN Executive Education

At the AUS College of Engineering, we have everything you need to sharpen your competitive edge. Our experts have the experience and expertise to boost your position in the marketplace. From our many professional training programs to our faculty's internationally recognized research projects, we have a proven track record of applying our specialized technical knowledge to create solutions for industry partners.

Whether you are a multinational corporation looking to revamp your supply chain management or technical skills, or a start-up seeking to develop new technology, we have the knowledge and resources to push your company to the forefront of the marketplace. Our executive education courses can be delivered within AUS' state-of-the-art facilities, within an organization's premises or online.

Let's build solutions for the future.

www.aus.edu/cen/cen-outreach