



Professional Education Programs

Course **ATM Networks and Switching Systems**

Overview Asynchronous Transfer Mode (ATM) networks are widely deployed to offer Quality of Services. The seminar will start giving an overview of the network evolution from the public telephone network to the existing ATM network. The main functions of the ATM layer will be given. The B-ISDN protocol reference model will be presented as a representation of the different types of information flows in ATM networks. Special attention will be paid on the traffic control principles and functions. The seminar will also cover ATM switch architectures with all the aspects: input and output modules, cell switch fabric, connection admission control, etc.

Objectives The participants will learn the functioning of ATM networks and the advantages they offer, including Quality of Service.

Who should attend This Executive Seminar is addressed to:

- Managers/engineers/professional scientists working for operators and equipment manufacturers involved in network, system and subsystem design, operation and maintenance of telecommunications networks as well as business development and strategy planning
- Students and individuals who seek to advance their personal and/or professional status through learning

Prerequisites Basic knowledge on communications networks.

Duration Either 1 full-day or 2 half-day sessions

Instructor

Course outline The course contents per half-day sessions follow:

Session 1:

- Introduction
 - Network evolution
 - Network models
 - B-ISDN protocol reference model
 - ATM Concept
- Functions of ATM
 - Virtual path (VP), virtual channel (VC), VP and VC identifiers, VPC, VCC, VPL and VCL, CLP field, GFC function, etc.
 - International standards and Industry agreements
 - ATM Networking
 - ATM Switching
- Information flows
 - User plane
 - Control plane: signaling
 - Management plane: Operations and Maintenance Functions





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Session 2:

- Traffic control and resource management
 - Quality of Service
 - Preventive and reactive control
 - Connection Admission Control (CAC)
 - Usage/Network parameter control (UPC/NPC)
 - Congestion control
 - Peak Cell Rate (PCR), Cell Delay Variation (CDV), Sustainable Cell Rate (SCR), Generic Cell
 - Rate Algorithm (GCRA), DBR, SBR, ABR, UBR and GFR rates
- ATM NE Functional Modeling and requirements
- ATM Adaptation Layer (AAL) and internetworking
- ATM Switching architectures
 - Functional requirements
 - Switch architecture model
 - Input module
 - Output module
 - Cell switch fabric
- System management
 - Fault management
 - Performance management
 - Configuration management
 - Accounting management
 - Security management
 - Traffic management
- ATM internetworking:
 - With Frame relay
 - With IP

Tuition Fee N/A

Discount Policy

Cancellation Policy

Program Registration www.ait.edu.gr/profPrograms/reg_form/admission_form.asp

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