

PROGRAM DESCRIPTION

Course:	Fundamentals of Satellite Earth Stations
Delivery Method:	Instructor-Led
Target Audience:	Junior-level Engineers, Technicians, and Operators involved in the design, integration, maintenance, and operation of satellite earth stations. This course is also useful for Sales Engineers, Systems Engineers, Program/Project Managers and Product Managers in the satellite industry.
Course Length:	3 Days
Class Size:	up to 15
Description:	This course provides a comprehensive technical review of the components, operation and maintenance of satellite earth stations. The potential radiation hazards associated with satellite earth stations are also discussed along with suggested safety practices. Topics include: ❖ Evolution of Satellite Communications ❖ Anatomy of a Communications Satellite ❖ Governing Bodies of the Satellite Industry ❖ Microwave Propagation Principles ❖ Satellites in Orbit: GEO's, MEO's, and LEO's ❖ Link Budget Analysis ❖ Antenna Systems ❖ High Powered Amplifier Systems ❖ Waveguide Systems and Components ❖ Uplink Power Control Systems ❖ RF Frequency Converters

- ❖ Low Noise Amplifiers
- ❖ Modulation Systems and Techniques
- ❖ Case Studies of Satellite Communication Networks

Course Objectives: This course is designed to enable the participants upon completion to:

1. Understand the orbital behavior of satellites and the design considerations in choosing between satellites
2. Understand link budget analysis and the cost considerations in designing a satellite network
3. Understand the components of satellite earth station subsystems and their performance
4. Understand network availability considerations in satellite earth stations
5. Understand the hazards created by RF radiation and safety techniques to avoid exposure