

# BeaconSeek

## Satellites in Broadcasting 2-5 October 2018

This new public course has been developed from both our Basic SNG Operations Course (run for over more than a decade) and satellite communications courses we have delivered to companies within industry over many years. The course has been broadened to meet the demand for training with a wider application in the use of satellites in broadcasting, from SNG contribution to Direct-To-Home distribution.

Our public courses have proven very popular, helping a number of delegates obtain employment in industry. The training we deliver is widely respected and we are supported by several major satellite operators, service providers, and equipment manufacturers.

Aimed at absolute beginners to those with intermediate level experience, no prior knowledge is assumed before taking this course. Delegates will typically come from the following backgrounds:

- Broadcast technical staff
- Control Room staff
- Managers
- Planners/Schedulers
- Satellite operator staff
- Craft practitioners (Cameraman/Picture editor/Sound operator)
- Manufacturers' sales staff
- UK Military leavers wishing to start a career in broadcasting by satellite

*“Terrific value  
for money ... my  
company will  
quickly recoup  
the investment.”*

Our four day course for up to six participants will equip delegates with the theoretical and practical knowledge to understand the processes involved in uplinking and downlinking signals within the broadcasting environment. Delegates will not only learn the theory behind the subject but also undertake basic operations of a satellite uplink and downlink, based on using a transportable satellite uplink.

We deliberately keep the number of delegates restricted to no more than six to maximize the tutor/student contact time, and so that everyone has the benefit of undertaking at least one if not several live transmissions.

The first two days of the course cover the theory of use of satellites in broadcasting, delivered in a digestible format - even for those from a non-technical background. We look at the technology and principal components that make up broadcast satellite uplink & downlink systems for both contribution and distribution.

On days 3 & 4, the course continues with a number of practical exercises designed to reinforce and expand on the theory learnt.

*“Beautiful venue  
... lovely food ...  
great atmosphere  
for learning as a  
beginner.”*

# Course Syllabus

## Theory

### Introduction to satellites

- History of Satellites
- Satellite Orbits
- Types of satellite & launching satellites
- Use in broadcasting (contribution & distribution)

### Satellite Configuration

- Frequency bands used (L, C, Ku, DBS & Ka)
- Uplink & Downlink frequencies
- Polarization
- Transponders – organization and usage
- Link Budget – overview

### System Principles Overview

- Broadcast Video & Audio
- MPEG Compression & Encoding
- Multiplexing channels
- DTH Transmission
- Encryption of signals
- Conditional access
- IP connectivity for Ka-band
- DVB Modulation & FEC
- Upconverters
- Amplifiers
- Antennas
- Link Performance
- Monitoring & Communications

### Working with Satellites

- Frequency Parameters
- Using a Spectrum Analyzer
- LNBS & Calculating receive frequencies
- Finding & identifying satellites - carriers, beacons & polarisation
- Interference – identifying and avoidance, carrier ID

### Accessing Satellites

- Satellite Control Centres and their role
- How to access the satellite
- Protocols, alignment, routine tests etc.
- ‘Talk up’ & ‘Talk down’ procedures
- Site surveys & safety for SNG operations

## Practicals

- Practical exercises using a manually-operated Ku-band uplink/downlink terminal
- Uplink/downlink station assembly, techniques in finding satellites, alignment, and receiving and transmitting to different satellites.
- Using a spectrum analyser
- Use of a Ka-band IP terminal
- Demonstration of a working SNG vehicle



## Course Details

**Cost:** £1350 + 20% VAT (£1620)

**Early Bird Discount Rate - Enrol (pay in full) before 1 September 2018 - £1225 + VAT (£1470)**

**Included:** All tuition, course materials, refreshments, and lunches over the four days

**Excluded:** Overnight accommodation and transportation

**Qualification:** Throughout the course, delegates will be continuously assessed, and provided they reach the required standard will each receive a Certificate of Competency on completion.

**Prerequisites for attending course: NONE**

**Sample Course Preview - <https://www.youtube.com/watch?v=8YzqAZ-9ac>** (note this is for our Basic SNG Ops course, which is the forerunner to this course)

**Location:** University of Bedfordshire, Putteridge Bury Conference Centre, Hitchin Road, Luton LU2 8LE, UK (<http://www.beds.ac.uk/knowledgehub/events/putteridgebury>)



The campus is just 10 minutes from London Luton airport and Luton train station.

With convenient connections to London Heathrow, London Gatwick and London Stansted airports, there are a number of local hotels available at a range of prices, and we would be pleased to assist in making reservations and arranging local transport.

There is ample car parking space on site.

**Bookings:** please email [training@beaconseek.com](mailto:training@beaconseek.com) to enquire further, or call +44 (0)1582 842717

### **IMPORTANT – TRAINING COURSE BOOKINGS - TERMS & CONDITIONS**

*Please note that we reserve the right to cancel or re-schedule training courses without liability for financial penalty or compensation to the Customer other than a full refund of any course fees already paid by the Customer in advance of the related course.*