

The background is a collage of four photographs showing satellite operations. The top photo shows a large white satellite dish on a tripod being moved by several people in front of a brick building. The middle photo shows a group of people working with satellite dishes on a lawn. The bottom-left photo shows a person standing next to a satellite dish with various cables connected to it. The bottom-right photo shows two people looking at a piece of equipment with a green cover on a cart.

# **BeaconSeek**

Basic SNG

Operations Course

May & October

University  
of Bedfordshire

Luton  
United Kingdom

# Basic Satellite Newsgathering Operations Course

Principal Tutor - Jonathan Higgins (CEng MIET)

**W**e have run this intensive satellite newsgathering (SNG) course for nearly a decade as a public event. It is based on training we deliver to companies within the industry, and these public courses have proven very popular, helping a number of delegates obtain employment in the industry. Our course is widely respected within the industry; we are supported by several major satellite operators and equipment manufacturers.

**A**imed at absolute beginners to intermediate level experience, with no prior knowledge assumed, typical delegates come from the following backgrounds:

- Cameraman / Picture editor / Sound operator
- Master control room engineers who want a feel of what it's like "out there"
- Manufacturers' sales staff
- Managers wanting a hands-on feel of the technology in order to make informed purchasing judgements
- HM Forces leavers wishing to start a career in SNG

*"A tremendous course, exactly what I needed ..."*

**T**his three day intensive course for up to six delegates will equip delegates with the theoretical and practical knowledge to undertake basic operations of an SNG uplink, both flyaway and vehicle-based.

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

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

**A**fter the intensive first day of digestible theory on the technology and principal components that make up an SNG system, the course continues with a number of practical exercises spanning the remaining time designed to reinforce the theory learnt.

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

**F**rom the beginning of the practical sessions, delegates undertake an exercise that includes carrying out a site survey identifying the position of points of interest, the satellites of interest, and then deciding collectively exactly where to rig the flyaway antenna to achieve a successful transmission.

**T**hey then move onto rigging the manually-operated antenna for a number of preliminary tests with several satellites before undertaking their first transmission. This continues on into the third day with further transmissions. During the final afternoon they have the opportunity of seeing an auto-pointing SNG van being demonstrated.



# Course Syllabus

## Day One - Theoretical Session

### **Introduction to satellites**

- Basic history
- Satellite Orbits
- Types of satellite
- Use in newsgathering

### **Satellite Configuration**

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

### **System Principles Overview**

- Broadcast Video & Audio
- MPEG Compression & Encoding
- IP connectivity for Ka-band
- DVB Modulation & FEC
- Upconverters
- Amplifiers
- Antennas
- Link Performance
- Monitoring & Communications

### **Working with a Satellite**

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

### **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**

- What to look for / what to avoid
- Use of compass and clinometer
- Survey Checklist – satellite view, power, access etc.
- Safety & minimising risks

## Day Two - Practical Session Part One

Carrying out a Site Survey. Practical exercises using using a manually-operated Ku-band flyaway then moving on to using a spectrum analyzer, including flyaway assembly, finding satellites, alignment, receiving and transmitting to satellite, and de-rigging.

## Day Three - Practical Session Part Two

Continuing practical exercises using Ku- and Ka-band flyaways, including assembly, alignment, transmissions to satellite, and de-rigging.

Demonstrations using an SNG truck with an auto-pointing antenna system, including set-up and transmissions to satellite.



## Course Details

**Cost includes** all tuition, course materials, refreshments, and lunches during the course

**Early Bird Discount Rate will be available once next course date is set**

**Excluded:** Overnight accommodation and transportation

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

**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.
- UK Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2014 - Individual consumers from within the EU paying for their own training directly with BeaconSeek are protected by the UK Consumer Contracts Regulations. This means that individual consumers are entitled to a 14 day 'cooling off' period, during which they are able to cancel any course bookings they have made without incurring any charge. If any payments have been made then the consumer is entitled to a full refund within the 14 day period if they wish to cancel. This only applies to individual consumers paying for their own courses and **not** where a course has been paid for by a company, institution, or government department, or once the course has commenced.