



**BeaconSeek**

**Basic SNG**

**Operations Course**



**May & October**



**University  
of Bedfordshire**



**Luton  
United Kingdom**

# Basic Satellite Newsgathering Operations Course

Principal Tutor - Jonathan Higgins

**W**e have now run this satellite newsgathering course for several years as a public event. It is based on training we have delivered to companies within the industry over many years, and these public courses have proven very popular. 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 participants 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

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

**T**he three day intensive course for six students will equip participants 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 participants restricted to 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.

**A**fter the first day and a half of easily 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, students are split into small groups to undertake exercise that include carrying out a site survey identifying the position of points of interest, the satellites of interest, and deciding collectively exactly where to rig the flyaway antenna.

**T**hey then move onto rigging the manually-operated antenna for a number of preliminary tests with several satellites before undertaking their first transmission.

**T**his continues on into the third day with further transmissions. In the final afternoon they have the opportunity of seeing an auto-pointing SNG van being demonstrated and undertaking a transmission for themselves if they so wish.



# Course Syllabus

## Day One - Theoretical Session

### **Introduction to satellites**

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

### **Satellite Configuration**

- Frequency bands used
- Uplink & Downlink frequencies
- Polarization
- Transponders – organization and usage
- Link Budgets

### **System Principles Overview**

- Video & Audio
- MPEG-2 Encoding
- 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**

- Control Centres and their role
- How to access the satellite
- Protocols, alignment etc.
- ‘Talk up’ & ‘Talk down’ procedures

### **Site surveys**

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

### **Safety issues for operators & the public.**

- Microwave hazards
- Electrical hazards
- Trip hazards
- Overhead hazards for SNG vehicles
- Weather

## Day Two - Practical Session Part One

Practical exercises using a spectrum analyzer, then moving on to undertaking a site survey, and using a manually-operated flyaway, including assembly, alignment, transmissions to satellite, and de-rigging.

## Day Three - Practical Session Part Two

Continuing practical exercises using a flyaway, 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: To Be Confirmed**

**Included:** All tuition, course materials, refreshments and lunches during the course days.

**Excluded:** local accommodation and transportation

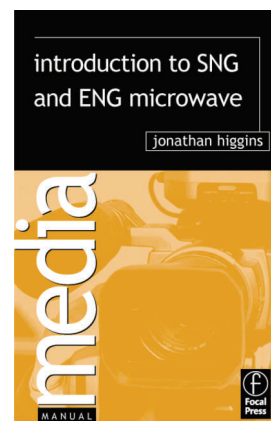
Throughout the course, students will be assessed and receive a Certificate of Competency on completion provided they reach the required standard.



Every student will receive a copy of *Introduction to SNG & ENG Microwave* signed by the author and principal course tutor, Jonathan Higgins.

Each student will also receive a Suunto Tandem Compass/Clinometer for use on the course and which is theirs to keep.

*(Total combined value of over £200)*



**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 for those coming by car.