

HF – Practical Basics

The course addresses all staff operating in the area of mobile communication. It offers a compact overview of high frequency technology like electromagnetic waves, frequency and wave room, wave propagation, modulation and measurement methods. The course also explains the relationship between performance of radio networks and measurement.

Target Group / Requirements

The course is designed for staff operating radio transmitting and receiving equipment as well as measurement equipment. A basic technical understanding is required.

Course Content

Electromagnetic Waves

- Time Domain vs. frequency Domain
- Electromagnetic Waves
- Wave Propagation
Attenuation, Diffraction, Refraction, Reflection, Shadowing, Fading

Antennae

- Basic Principle
- Matching and Standing Wave Ratio
- Directivity and Antenna Gain
- Antenna-Diversity and MIMO

Modulation

- Analog Modulation: AM, FM, PM
- Digital Modulations, IQ-Diagram, MSK, xPSK, xQAM
- PAR and Crest-Factor

HF-Components

- Cables, Connectors, Filters
- Attenuator, Amplifier
- Coupler, Combiner, Divider, Circulator

Course Duration:

2 days

Course Number:

NW1201

Requirements:

Basic technical knowledge

Noise

- Thermal Noise
- Interference
- Signal-Noise-Ratio in Frequency-Domain
- Signal-Noise-Ratio in the IQ-Diagram
- Eye-Diagram
- Parameters, S/N , E_c/I_o , R_xLev

Certification

Certificates are given to all participants at the end of the course about the successful completion.

Course Registration:

Please contact us via

- phone: +49 89 1894354-405
- email: training@tfk-technologies.de or
- via our website <https://skilleap.com/courses>

You will receive a confirmation of your registration. We can also advise you concerning the best combination of course contents.

For clients with special requirements the optimal training concept can be customized. Modules from our training portfolio can be combined to meet your company-specific needs.