



Certificate Course in Advanced Spectrum Management



23 May- 11 June, 2011

**VENUE: UTM CAMPUS, SKUDAI, JOHOR &
SKMM HEAD OFFICE, CYBERJAYA, SELANGOR,
MALAYSIA**

A COLLABORATION PROGRAMME BETWEEN

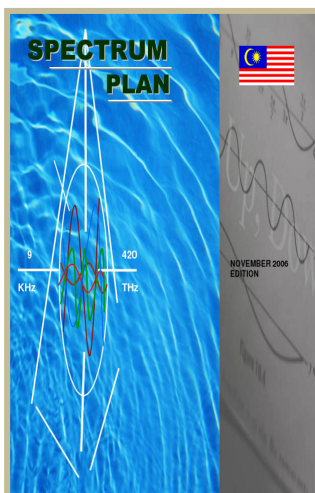
**SKMM ACADEMY
AND
WIRELESS COMMUNICATION CENTRE
(WCC), UTM**

Certificate Course in Advanced Spectrum Management



The 3 week **Advanced Spectrum Management** course caters to the needs of spectrum managers or anyone who needs to optimise the use of scarce radio frequency spectrum and understand how technology impacts on its use. The course aims to give participants a sound grounding on the basic engineering elements of spectrum as well as the fundamentals of spectrum management.

The course is delivered by academics, regulators and industry leaders with extensive knowledge in spectrum management. During the course, participants are introduced to different physical and technical aspects of spectrum management and thought hands-on how to conduct analyses during interference and coordinating calculations. Topics covered include: Radio Spectrum Harmonisation & Spectrum Economics, Radio Spectrum Monitoring & Control and Radio Standardization.



At the end of the course Participants are tested on their understanding of spectrum management and techniques available to resolve the demands for access to spectrum. Those who have successfully passed the examination will be awarded a certificate.

Course Fees

The 3 week Advanced Spectrum Management costs RM 1500 per participant. The fee includes all course materials and meals during the course but does not include accommodation.

Certificate Course in Advanced Spectrum Management

Week 1: Radio Spectrum Fundamentals

The focus will be introduction to the engineering details of spectrum including the fundamental of radio spectrum.

i. Radio Spectrum:

- **Radio Spectrum Engineering**
- **Technical Issues of Radio**
- **Radio Propagation & Modulation**
- **Antennae**

ii. Radiocommunication Services :

- **Mobile Service**
- **Satellite Service**
- **Fixed Service**
- **Broadcasting Service**
- **Other Services(such Aeronautical, Maritime and Sciences)**

iii. Case Studies:

- **Mobile Planning**
- **Digital Broadcasting Planning**
- **Satellite Communication Planning**
- **Fixed Links Planning**
- **Coexistence and Sharing**

Week 2: Radio Spectrum Harmonization and Economics

The course in the 2nd week will deal with the regulatory aspect of the harmonization of radio spectrum, economics of radio spectrum including spectrum pricing, spectrum auctioning, spectrum trading and re-farming of spectrum. There will be a visit to radiocommunication facilities.

i. Radio Spectrum Harmonization:

- **ITU & Radio Regulations**
- **Border and Regional Technical Harmonisation**
- **Regional & World Radio Conference**
- **Satellite Coordination**
- **Spectrum Plan**
- **Standard Radio System Plan**
- **Assignment of Spectrum(SpMS)**
- **Site Inspection & Verification**

ii. Visit to Radiocommunication Facility :

KL Tower Radiocommunications Station

iii. Radio Spectrum Economics:

- **Spectrum Pricing**
- **Spectrum Auctioning**
- **Tender & Beauty Contest**
- **Spectrum Trading**
- **Spectrum Re-farming**

Week 3: Radio Spectrum Control & Monitoring and Standardisation

The 3rd and final week of the course will comprise of Radio Spectrum Control & Monitoring where participant will have an hands-on experience of the monitoring system. The course will also cover the subject on Radio Standardisation, both international and local standard body.

i. Radio Spectrum Control & Monitoring:

- **International Regulations on Control of Interference**
- **Domestic Control of Spectrum Interference**
- **Case Studies of Interference**
- **RFID & Other Low Power Devices**
- **Monitoring System & Equipment**
- **Hands-on Experience with DCMU**

ii. Visit to RTM & Mobile Base Station

- **RTM Radio Broadcasting Stations**
- **Mobile Base Station/ WiMax base station**

iii. Radio Standardisation:

- **Standardisation & Certification**
- **Malaysian Standard(MTFSB)**
- **Radio Proficiency**
- **RF Hazards**
- **Introduction to Spectrum Planning Tools (SpectraPlan & SpectraEMC Chirplus BC)**