



ITU Centres of Excellence Network for Asia and the Pacific
State Radio Monitoring Center - China
Online Training Course on

SPECTRUM MANAGEMENT AND SPECTRUM ENGINEERING TECHNIQUES

6 - 19 September 2021

TRAINING COURSE OUTLINE

COURSE DESCRIPTION

Title	Spectrum Management and Spectrum Engineering Techniques
Objectives	To develop an understanding of the spectrum management and improve spectrum engineering techniques.
Dates	6 -19 September 2021
Duration	2 weeks
Registration deadline	5 September 2021
Training fees	Free
Course code	21OI26619ASP-E

DESCRIPTION OF THE TRAINING COURSE

This course covers the core functions of spectrum management and spectrum engineering techniques and is mainly targeted towards the staff of National Spectrum Management agencies. This course covers the core functions of spectrum engineering, including emerging radiocommunication technologies, spectrum efficiency, coordination procedure, and frequency management regulation.

LEARNING OUTCOMES

The training course will provide an empowering learning environment through a combination of course content and discussion boards focused on sharing information with the participants.

Upon completion of this course, participants will be able to:

- Be Interested in non-GSO satellite systems
- Be familiar with compatibility study
- Understand technical spectrum efficiency
- Understanding of cross-border coordination, bilateral coordination of terrestrial services and earth stations.

TARGET POPULATION

This training is designed to address mid to senior level management from policy makers, regulators, corporate executives and managers responsible for Spectrum Management and Spectrum engineering techniques.

ENTRY REQUIREMENTS

None

TUTORS/INSTRUCTORS

NAME OF TUTOR(S)/INSTRUCTOR(S)	CONTACT DETAILS
TBD	ITU
Ms. REN Hong	SRMC
Ms. WU Xi	SRMC
Mr. CHANG Liang	SRMC Spectrum Institute
Ms. DING Xianhua	SRMC
Ms. SUN Qian	CAST
Mr. YANG Wenhan	GALAXY SPACE

TRAINING COURSE CONTENTS

The course mainly focus on Spectrum Management and Spectrum engineering techniques, such as sharing study, technical spectrum efficiency, bilateral coordination, Earth-station coordination areas, ITU frequency management regulation, LEO satellite constellation and so on.

TRAINING COURSE SCHEDULE

Topic	Speaker	Interactive Session
TBD	ITU	7 th September 2021
<p>Coordination for Stations of Terrestrial service and earth stations</p> <p><i>This course aims at helping us to coordinate between stations of terrestrial service or between stations of terrestrial service and earth stations in the border areas of different countries. The main issues include the basic information from ITU for coordination or regional agreement , coordination method, calculation method, propagation models ,etc.</i></p>	SRMC Ms. REN Hong	8 th September 2021
<p>Brief Introduction on Terrestrial Frequency Assignments Notification</p> <p><i>The course covers brief introduction on relevant provisions of the Radio Regulations with respect to the terrestrial services frequency assignment registration, and relevant procedures and softwares. Helping the attendees to build basic views on terrestrial frequency assignments notification, and grasp relevant basic operation skills.</i></p>	SRMC Ms. WU Xi	10 th September 2021
Quiz #1		11 th -12 th September 2021
<p>Application of ray tracing technology in the field of radio management</p> <p><i>The presentation will introduce a High-precision geolocation technique based on reflection line tracking technology, which is able to resolve the problem of accurate geolocation in urban environment. Based on the accurate three-dimension modeling of building, the technique is able to locate position of emitter by receiving the field strength data from distributed sensors. Experiments in traditional environment have verified the feasibility of this technique.</i></p>	SRMC Spectrum Institute (Beijing OET Spectrum Institute) Mr. CHANG Liang	13 th September 2021
<p>Spectrum Requirement Estimation</p> <p><i>The presentation will introduce the methodology for calculation of spectrum requirements. The following three cases are given to illustrate the estimation process: PPDR(Public Protection and Disaster Relief), the terrestrial and satellite component of IMT.</i></p>	SRMC Ms. DING Xianhua	14 th September 2021

<p>Telecommunication Satellite and ITU frequency management regulation</p> <p><i>The presentation will introduce the framework and application scenario of telecommunication satellite, as well as the capability of DFH series satellite platform of China. The presentation will also give a general introduction of frequency characteristics, international frequency management mechanism, and frequency and orbit resources submission and coordination procedure</i></p>	<p>China Academy of Space Technology (CAST)</p> <p>Ms. SUN Qian</p>	<p>16th September 2021</p>
<p>LEO satellite constellation : Technology developments and interference analysis</p> <p><i>The presentation will introduce the technology characteristics and developments of LEO satellite constellation. And introduce the methods to assess interference involving non-GSO satellite systems.</i></p>	<p>GALAXY SPACE (BEIJING) TECHNOLOGY</p> <p>Mr. YANG Wenhan</p>	<p>17th September 2021</p>
<p>Quiz #2</p>		<p>18th-19th September 2021</p>

METHODOLOGY (Didactic approach)

This course will be delivered using instructor-led online learning. The course is delivered using power-point slides posted on the course page and selected reference materials that the participants have to study each week, participate in scheduled activities and undertake self-assessments. Students will reinforce their understanding of the topics studied by drawing on their specific environments and are encouraged to consult with experienced colleagues who are working on a relevant topic. The following methods will be used for this course.

The training methodology will be as follows:

- Each module will be studied and discussed over the established time period;
- Training materials will be made available through online learning access page;
- Moderated Interactive discussion forums (60 mins with 15 mins for summary of relevant content and 45 mins for Q&A) will be organized where students are highly encouraged to participate and interact with instructors and other students;
- Quiz tests will be assigned at the end of a given training week;

All announcements for all events (materials, quizzes and forums) will be given prior to the event by the training tutor.

EVALUATION AND GRADING

Below are the evaluation schemes:

Quiz #1:	20%
Quiz #2	40%
Participation	20%
Assignment	20%

TRAINING COURSE COORDINATION

Course coordinator: Ms. LI Jianxin Tel: +86 10 6800 9073 Fax: +86 10 6800 9073 E-mail: lijianxin@srrc.org.cn	ITU coordinator: Name: Mr. Sean Doral Email address: sean.doral@itu.int
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REGISTRATION

ITU Academy portal account

Registration should be made online at the ITU Academy portal.

To be able to register for the course you **MUST** first create an account in the ITU Academy portal at the following address:

<https://academy.itu.int/user/register>

Training course registration

When you have an existing account or created a new account, you can register for the course online at the following link: <https://academy.itu.int/training-courses/full-catalogue/spectrum-management-and-spectrum-engineering-techniques>

You can also register by finding your desired course in our training catalogue <https://academy.itu.int/training-courses/full-catalogue>