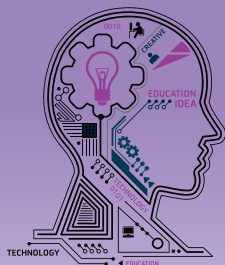CYBERSECURITY   BROADBAND ACCESS   E-WASTE

CONFORMANCE AND INTEROPERABILITY   CAPACITY BUILDING IN INTERNET GOVERNANCE

TRAINING
OPPORTUNITIES
2018

Offered by the ITU Centres of Excellence for Europe

TECHNISCHE UNIVERSITÄT
CHEMNITZ

CZECH
TECHNICAL
UNIVERSITY
IN PRAGUE

OVERVIEW OF
CoE INITIATIVE

The Centres of Excellence (CoE) programme was launched by the International Telecommunication Union (ITU) in 2000, aiming to support capacity building in the field of information and communication technologies (ICTs). Designed to offer continuous education to ICT professionals and executives in the public and private spheres through face-to-face or distance learning programmes, the Centres serve as regional focal points for professional development, research, and knowledge sharing, as well as provide specialist training services to external clients. With the support from multilateral and regional organizations, CoE networks have been established in all ITU regions. The current network is composed of 32 Centres across the globe, six each in Africa, the Americas, Arab States and Asia-Pacific regions, five in the Europe region and three in the CIS region.

SCOPE

This catalogue has been produced by the ITU Office for Europe in collaboration with five ITU Centres of Excellence in Europe to highlight and promote the capacity building courses provided by the centres.

While participation is open to participants from all countries, stakeholders from the Member States of the Europe region (as defined at ITU) are primarily encouraged to participate in the courses. These countries are Albania, Andorra, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, The Former Yugoslav Republic of Macedonia, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Vatican City State and the United Kingdom.

The courses aim to increase participants' understanding, knowledge, and awareness in the following areas:

BROADBAND ACCESS

CYBERSECURITY

CAPACITY BUILDING
IN INTERNET GOVERNANCE

CONFORMANCE
AND INTEROPERABILITY

Courses are provided either face to face or online

- Courses are provided either face to face or online – via the ITU Academy e-learning platform

- All courses have a test component. A certificate of achievement is given to candidates who successfully complete the end-of-course assessment(s).

- Information on the registration process and payment methods can be found on the ITU Academy website: academy.itu.int

- Changes in course dates may occur and are reflected on the ITU Academy website: academy.itu.int

Disclaimer

The catalogue content is correct at the time of production.

COURSES
IN CHRONOLOGICAL ORDER

COURSES
BY AREA

CAPACITY BUILDING IN INTERNET GOVERNANCE

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LEGAL AND REGULATORY BARRIERS TO THE INTRODUCTION OF CLOUD SERVICES IN THE EU
[5-12 March]
02
WIRELESS ACCESS TECHNOLOGIES TO INTERNET NETWORK
[2-9 April]
04
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[24 September–01 October]
11
TECHNICAL, BUSINESS AND REGULATORY ASPECTS OF 5G NETWORK
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05
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COURSES
WITH DETAILS

STRATEGIC ASPECTS FOR INTERNET GOVERNANCE AND INNOVATIONS
[5-12 February]

ORGANISED BY

INSTYTUT ŁĄCZNOŚCI
PAŃSTWOWY INSTYTUT BADAWCZY

LANGUAGE
ENGLISH

FEES
150 USD

MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM

IP technology is the basis of the Internet and the global digital changes taking place in the past 25 and more years. Users want to have access to telecommunication services from anywhere at any moment which is why mobile and wireless access to Internet play an increasingly important role in ICT development. The focus of this course on key aspects including convergence in telecommunications, broadband strategies and innovations, internet standardization and policy, innovation management in ICT, mobile and internet telephony, IPTV innovations, network neutrality and the management and regulation of Internet.

01

[5-12 March]

This workshop will explain, from a practical point of view, the legal and regulatory barriers to the development of cloud services. The discussions will encompass

♦ Existing sources of law from a national and international perspective, in the context of various, differentiating cloud definitions, cloud service models and different subject matter of such services

♦ Future regulations such as the General Data Protection Regulation and its impact on the cloud regulatory framework

♦ Issues related to cloud standardization and the extent to which standardization

02

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CAPACITY BUILDING IN INTERNET GOVERNANCE

LEGAL AND REGULATORY BARRIERS TO THE INTRODUCTION OF CLOUD SERVICES IN THE EU
[cont'd]

may support the legal framework related to the cloud environment

♦ Service procurement issues including the contents of cloud contracts, service level contracts and the enforcement of such contracts

♦ Risks connected with cloud contracts from the perspective of cloud vendors, including state and local government vendors, private vendors, cloud service providers and brokers as well as auditors

♦ Issues involved in auditing cloud services

03

CAPACITY BUILDING IN INTERNET GOVERNANCE

WIRELESS ACCESS TECHNOLOGIES TO INTERNET NETWORK
[2-9 April]

ORGANISED BY

INSTYTUT ŁĄCZNOŚCI

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LANGUAGE
ENGLISH
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FEES
150 USD
....

MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM
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IP technology is the basis of the Internet and the global digital changes taking place in the past 25 and more years. Users want to have access to telecommunication services from anywhere at any moment which is why mobile and wireless access to Internet play an increasingly important role in ICT development. The focus of this course on key aspects of the current and most important wireless access technologies including wireless and mobile Internet fundamentals, 4G access technologies by 3GPP: LTE/LTE-Advanced, 4G mobile VoIP and mobile IPTV, OTT (Over-The-Top) broadband Internet services in wireless and mobile networks, quality of service assessments, regulatory and business aspects for wireless and mobile broadband access to Internet.

04

CONFORMANCE AND INTEROPERABILITY

FIBER OPTIC SPLICING AND INSTALLATION
[23-25 May]

ORGANISED BY

iSQ

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LANGUAGE
ENGLISH
....

FEES
500 USD
....

MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM
....

Participants will be apprised of the fundamental concepts related to light, optical transmission principles, optical source operation, fiber optic cables fusion, optical time domain reflectometer (OTDR) to verify the installation, fiber optic cable junctions and measuring insertion loss with optical power meter.

05

FUTURE BROADBAND INTERNET ACCESS
[29 May – 25 June]

ORGANISED BY

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LANGUAGE
ENGLISH

....

FEES
150 USD

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MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM

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This course will focus on Future Broadband Internet Access from technology, regulation and business aspects. It will cover the Internet technologies, including architectures, protocols (IPv4, IPv6, TCP, UDP) and fundamental technologies (Internet routing, DNS, DHCP), Web services, Internet QoS, as well as Internet governance. Further, the course will include broadband Internet access technologies, focusing on ITU's work on broadband, including xDSL access networks, cable data access networks, passive optical networks (GPON), as well as impact of broadband access on business and

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FUTURE BROADBAND INTERNET ACCESS
[cont'd]

development at a global scale. It will cover future broadband Internet access, including Next Generation PON (NG-PON), Active Optical Networks (AON) and WDM, as well as carrier-grade Metro Ethernet. Further, the course will include the ITU's framework for broadband Internet QoS measurements and QoS enforcement as well as NGN-based and future broadband Internet services, including QoS-enabled VoIP and IPTV, Over-The-Top Internet data services, Internet of Things, Big Data, Cloud Computing, Smart Sustainable Cities in Future Networks, will also be discussed.

CYBER SECURITY AWARENESS FOR SMES
[04 June]

ORGANISED BY

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LANGUAGE
ENGLISH

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FEES
150 USD

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MODE
FACE TO FACE

....

A comprehensive "cookbook" for small or medium business enterprises with the aim to identify particular pitfalls while implementing security measures. At the end of the course, the participant should have gained an understanding to identify various security aspects and experience necessary to implement appropriate security measures within voice and data networks of small business enterprises.

SOFTWARE CONFORMANCE TESTING AND AUDIT
[27–28 June]

ORGANISED BY

iSQ

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LANGUAGE
ENGLISH

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FEES
800 USD

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MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM

....

This 2-day course addresses the methods and techniques that be can applied to software conformance testing. Participants are equipped with an understanding of the basic principles of software testing with concrete applications to telecommunication systems. Processes and methods, that can be used to perform a software conformance audit based on ISO 25000 for any telecommunication software product or system, are also taught.

INTERNATIONAL SUMMER SCHOOL ON CYBERSECURITY
[09–13 July]

ORGANISED BY

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LANGUAGE
ENGLISH
....

FEES
FREE
....

MODE
FACE TO FACE
....

The focus of this course is to understand security aspects of operating systems, networks and web applications. Students gain insight into the evolving cyber threats and attacks. They will have the opportunity to meet the experts who work to ensure cybersecurity in companies and enterprises.

Everyday a brief theoretical introduction will be followed by practical exercises in the lab. Students will have the opportunity to try out different kinds of attacks, identify vulnerabilities and learn how to defend against them. At the end of the course they will gain a good knowledge that will help them better protect their computers, mobile phones and life in cyberspace.

10

SECURITY AND QOS IN INTERNET NETWORK
[24 September–01 October]

ORGANISED BY

INSTYTUT ŁĄCZNOŚCI

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LANGUAGE
ENGLISH
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FEES
500 USD
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MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM
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This course will focus on Security and Quality of Service (QoS) on the net from technology, regulation and business aspects. It will cover internet fundamentals, including internet protocols and architectures, internet security standards and approaches as defined by IETF (Internet Engineering Task Force), as well as security architectures for end-to-end communications. It will incorporate cybersecurity approaches from the ITU viewpoint, and security aspects of emerging cloud computing and Internet of Things (IoT). Internet QoS, including the standardized

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SECURITY AND QOS IN INTERNET NETWORK
[con'd]

solutions and practical approaches for provision of end-to-end as well as QoS parameters as defined by the ITU and QoS for data (i.e., Over-The-Top services) and mobile services, will be discussed. Network neutrality, internet key performance indicators and their measurements will be explained.

INTRODUCTION TO CYBER SECURITY FOR LIFECYCLE OF THE NEW MILLENNIUM
[01 October]

ORGANISED BY

LANGUAGE
ENGLISH

FEES
300 USD

MODE
FACE TO FACE

A comprehensive overview for IT management stuff into cybersecurity issues in new millennium. The course is addressed to executives and practitioners such as CEOs, CIOs, CISOs, company policy makers or security architects. In the course, we will explain the evolution of tools, policies and security concepts, which can be used to protect the cyber environment and organization and user's assets. We will also address the issue of the development of secure applications and systems. At the end of the course, the participant should have gained an understanding of security principles and needs necessary to effective plan and implement company cybersecurity in the digital era economy.

BROADBAND ACCESS
BROADBAND ACCESS
[October]

ORGANISED BY

TECHNISCHE UNIVERSITÄT CHEMNITZ
....

LANGUAGE
ENGLISH
....

FEES
500 USD
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MODE
FACE TO FACE
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There is general consensus that broadband networks, services and applications have enormous potential to deliver dramatic results in education, health and socio-economic. Broadband, as an ITU area of action, is instrumental in "Connecting the unconnected". Having a good grasp of the strategic implication and relevant technical expertise on broadband access is needed. This capacity building course aims to provide participants with a better technical understanding of broadband access. Participants will be taught the general aspects of broadband access including quality of service, net neutrality and cost models. A special focus is given to wireless (3GPP, WLAN) and fixed (DSL, FTTH) access technologies as well as transport networks (optical, IP/MPLS).

14

CYBERSECURITY
NETWORK AND IT SECURITY
[October]

ORGANISED BY

TECHNISCHE UNIVERSITÄT CHEMNITZ
....

LANGUAGE
ENGLISH
....

FEES
500 USD
....

MODE
FACE TO FACE
....

Technology is ever evolving and new security threats continue to be devised. IT and network security is not yet at the core of many national and industrial technology strategies. Awareness at all socio-economic level, responsible usage of IT systems and effective application of measures including technical ones, must be implemented and reviewed in the light of new types of attacks. This course provides participants with an overview of the current threat scenarios, classifications and examples of attacks including denial of service, routing and DNS attacks. It elaborates on the generic security concepts and mechanisms to prevent as well as detect and mitigate attacks. Encryption methods, the Public Key Infrastructure and Key management as well as Intrusion Detection Systems, Firewalls and Network Access Control concepts and techniques are explained in depth.

15

TECHNICAL, BUSINESS AND REGULATORY ASPECTS OF 5G NETWORK
[25–26 October]

This course will focus on technical, business and regulatory aspects of the 5G mobile networks. It include will 4G mobile technology transition toward the 5G, considering the access and core networks as well as end-user services. Mobile broadband Internet after 4G will continue with the next generation, 5G, so the course will cover also IPv6 and its impact on 5G mobile networks. Further, it will include M2M (Machine-to-Machine) and mobile Internet of Things (IoT) services are foreseen types in future 5G mobile environments, as well as mobile cloud computing implementations. Also, the course will include spectrum management for IMT (International Mobile Telecommunications) including the 5G

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TECHNICAL, BUSINESS AND REGULATORY ASPECTS OF 5G NETWORK
[cont'd]

considerations. The QoS in mobile networks going from 3G/4G mobile world toward the 5G will continue to be important, hence the course will also focus on QoS and QoE in next generation mobile environments. Finally, the course will focus on emerging services and applications in 5G mobile networks in different verticals, including technology, as well as their business and regulation aspects.

FIBER OPTIC SPLICING AND INSTALLATION
[24–26 October]

ORGANISED BY

iSQ

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LANGUAGE
PORTUGUESE
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FEES
500 USD
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MODE
FACE TO FACE
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Technology is ever evolving and new security threats continue to be devised. IT and network security is not yet at the core of many national and industrial technology strategies. Awareness at all socio-economic level, responsible usage of IT systems and effective application of measures including technical ones, must be implemented and reviewed in the light of new types of attacks. This course provides participants with an overview of the current threat scenarios, classifications and examples of attacks including denial of service, routing and DNS attacks. It elaborates on the generic security concepts and mechanisms to prevent as well as detect and mitigate attacks. Encryption methods, the Public Key Infrastructure and Key management as well as Intrusion Detection Systems, Firewalls and Network Access Control concepts and techniques are explained in depth.

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NEXT GENERATION MOBILE BROADBAND
[20 November – 17 December]

ORGANISED BY

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LANGUAGE
ENGLISH
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FEES
150 USD
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MODE
ONLINE –
VIA THE ITU ACADEMY
E-LEARNING PLATFORM
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This course will focus on Next Generation Mobile Broadband from technology, regulation and business aspects. It will cover mobile broadband technologies, including ITU's IMT-2020 umbrella, mobile Internet architectures, 4G/4.5G mobile broadband including LTE/LTE-Advanced-Pro and their coexistence with 3.5G technologies, System Architecture Evolution (SAE) and Evolved Packet Core (EPC), IP Multimedia Subsystem (IMS), as well as ITU's business and regulation aspects for mobile broadband. Further the course will include next generation broadband WiFi access (IEEE 802.11ac/ad), WLAN hotspots, mobile broadband offload via

19   ...

NEXT GENERATION MOBILE BROADBAND
[cont'd]

WiFi, and their business and regulation aspects. Also it will cover the ITU's work on next generation mobile broadband, including mobility in Next Generation Networks (NGN), IPv6 mobile broadband, 5G mobile core and Software Defined Networking (SDN), 5G cloud RAN, 5G distributed RAN, as well as spectrum management for 3G/4G/5G mobile broadband access. Finally, the course will incorporate next generation mobile broadband services, including QoS-enabled VoIP and IPTV over 4G/5G mobile broadband, massive Internet of Things, Machine-to-Machine (M2M) and Device-to-Device (D2D) services, mobile broadband Over-The-Top (OTT) data services, Mobile Cloud Computing (MCC), as well as QoS regulation guidelines for next generation mobile broadband.

CE MARK FOR TELECOMMUNICATION, ACHIEVING COMPLIANCE FROM THE DIRECTIVES TO THE TEST LAB
[21-23 November]

ORGANISED BY

iSQ

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LANGUAGE
ENGLISH
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FEES
700 USD
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MODE
FACE TO FACE
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This 3-day course will present trainees with the legal requirements contained in the European Commission (EC) Directives that need to be fulfilled in order to market a product within the EC (CE mark). The trainee will be presented with the new approach for directives pertinent to ICT. These are explored in depth to understand the essential requirements, the selection of standards and test methods required in order to achieve conformity with all the applicable standards.

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