



ITU CENTRES OF EXCELLENCE NETWORK OF THE
AMERICAS REGION

FINAL REPORT

OF THE

4TH STEERING COMMITTEE MEETING

7 DECEMBER 2020

Online Meeting



1. INTRODUCTION AND OPENING

The 4th Steering Committee Meeting of the ITU Centres of Excellence for Americas for the 2019-2022 cycle was exceptionally held online, on 7 December 2020, because of restrictions caused by the Covid-19 pandemic. The Steering Committee Meeting was attended by 47 delegates including Centres of Excellence (CoEs), representatives from 3 Administrations of the Member States hosting CoEs, ITU Academic Members and the ITU Secretariat. The list of participants is attached to this report (Annex 1).

Mr. Bruno Ramos, Director of the ITU Americas Regional Office, delivered the opening remarks on behalf of ITU and recalled the meeting's relevance amid the COVID-19 pandemic. Mr. Ramos also reminded participants of the great obstacles which had to be surpassed and recognized the efforts of the CoE network in addressing solutions. He also stressed that online training is one of the segments which had emerged stronger from the pandemic, having recognized its great importance. The Regional Director also stressed the importance to double down CoE's efforts to provide courses of quality, which meet the expectations of all participants and the needs of the ICT sector in the Americas Region.

Mr. Ramos also thanked the CoE for sending their proposals of courses planned for 2021 and requested participants to provide a practical analysis of proposals by prioritizing the main relevant courses and considering what countries are demanding.

2. CONFIRMATION AND REMARKS BY THE INCOMING CHAIR

The confirmation of the Incoming Chair was led by Ms. Susan Teltscher, Head of the Capacity and Digital Skills Development Division of ITU. Ms. Teltscher provided some initial remarks on the relevance of the meeting and invited the members of the meeting to confirm the Steering Committee Chair for the year 2020-2021.

After receiving confirmation, Ms. Andrea Grippa, Specialist in Regulation at the National Agency for Telecommunications of Brazil, was confirmed Chair of the Steering Committee for the year 2020-2021. The meeting was officially opened by Ms. Grippa, who congratulated all ITU Centres of Excellence for Americas for their successful delivery of training courses despite COVID-19 effects. Ms. Grippa thanked the meeting for the confirmation and chaired the 4th Steering Committee Meeting of the CoE Network for Americas.

Proposed draft agenda was adopted by the meeting (see Annex 2).



Virtual official group photo

3. CENTRES OF EXCELLENCE PRESENTATIONS: 2020 IMPLEMENTATION AND TRAINING PLANS FOR 2021

Presentation by ITU

Firstly, Ms. Ana Veneroso, ITU Programme Coordinator presented an overview of the ITU Academy platform, the overall implementation of capacity development activities in the region and the implementation of CoE activities, highlighting dynamics of the implementation in a challenging moment. She emphasized the fact that Centres of Excellence adapted quickly to the new reality impacted by the COVID-19 pandemics. She stressed the need to monitor performance and work towards improving course-delivery. As of December 7th, ITU Centres of Excellence for Americas had offered 18 trainings out of which 10 were implemented and 9 were cancelled. Ms. Veneroso emphasized that the fact that more than half of planned trainings for 2020 were implemented reflected the improvement of the performance of the network, even despite COVID-19 restrictions. Overall, 544 people were registered in the trainings delivered by the CoEs, out of which 338 were certified. In comparison to 2019, ITU Centres of Excellence network experienced significant growth of trained and certified people. In 2019 out of 23 trainings planned, only 11 were implemented, adding to 123 people trained and 103 certified. For more details, please see Annex 4.

In spite of the challenges caused by the global pandemic crisis, CoEs for Americas were able to improve their performance, as mentioned above. This better performance was mainly credited to the decision by some CoEs of providing courses free of charge.

Presentations by Centres of Excellence

The Chair invited the CoEs to present their detailed **2020 activity report**, including challenges faced in the implementation of training courses.

ANTEL, Uruguay

Only one out of four online trainings that had been planned for 2020 was implemented.

Courses planned	Delivery Mode	Original dates	Final dates	Status	Number of participants	End reports
Design Thinking e Innovacion Tecnologica	Online	07-25SEP20	05-23OCT20	Cancelled	N/A	N/A
Gestion de la Innovación	Online	04-22MAY20	13-31JUL20	Implemented	43	Submitted
Introduccion a Rede SDN y Redes IP	Online	19OCT-13NOV20		Cancelled	N/A	N/A
Fundamentals on 5G and related technologies	Online	19OCT-13NOV20	5-23OCT20	Cancelled	N/A	N/A

INATEL, Brazil

In 2020, INATEL has implemented three out of four online trainings planned for the period. INATEL courses were attended by a large number of participants, including national regulators, government organizations and ministries, network and service providers, telecom and IT companies, students from universities, professors from academia and instructors from training centers. Due to INATEL's decision to provide courses free of charge, it received 384 registered participants.



Courses planned	Delivery Mode	Original dates	Final dates	Status	Number of participants	End reports
Conocer 4G	Online	4-10MAY20		Implemented	285	Submitted
Tecnologica celular 4G - LTE	Online	11MAY-17JUL20	11MAY-30SEP20	Cancelled	N/A	N/A
Principales casos del uso de la tecnologia 5G	Online	20-26JUL20		Implemented	262	Submitted
5G y el Internet de la Cosas: Tendencias y Aplicaciones	Online	13JUL-21AUG20	27JUL-25SEP20	Implemented	12	Submitted

INICTEL-UNI, Peru

In 2020, INICTEL-UNI had delivered all three courses planned for implementation in the year. INICTEL-UNI not only benefited from early scheduled dates (at the beginning of COVID-19 pandemic), but also from higher satisfaction rates in previous years.

Courses planned	Delivery Mode	Original dates	Final dates	Status	Number of participants	End reports
Redes de Sensores y Tecnologias Inalambricas para Internet de las Cosas y Ciberseguridad	Online	10-21FEB20		Implemented	27	Submitted
Investigacion Forense	Online	18MAY-08JUN20	03-30 MAR20	Implemented	13	Submitted
Fundamentos de Ciberseguridad	Online	03-30 MAR20	9-11NOV20	Implemented	17	Submitted

UBP, Argentina

In 2020, UBP delivered half of the courses planned. Due to COVID-19 restrictions, courses scheduled for implementation earlier in the first semester could be delivered, while the remaining two, scheduled for the second semester, were cancelled. The representative of UBP shared some insights on improvement of the CoE strategy to perform with higher participation rates. It was suggested that UBP to promote webinars in each of its priority areas, a closer interaction with stakeholders from Argentina to promote the trainings, increase marketing strategy and consider the inclusion of soft skills elements within the training topics.



Courses planned	Delivery Mode	Original dates	Final dates	Status	Number of participants	End reports
Internet de las Cosas: conceptos y aplicaciones	Online	11MAY-19JUN20	26 OCT-04 DEC20	Implemented	7	Submitted
Seguridad en entornos IoT	Online	10AUG-04SEP20	23 NOV-18 DEC	Cancelled	N/A	N/A
Innovación aplicada a la transformación digital	Online	08JUN-24JUL20	17AUG-09OCT	Cancelled	N/A	N/A
Innovación Abierta	Online	16MAR-10APR20	27 APR-22MAY	Implemented	48	Submitted

UTPL, Ecuador

While in 2019 UTPL had both of its scheduled courses cancelled, in 2020, out of three trainings planned for implementation, only one was delivered, which amounted to five participants, all of whom belonged to the same government agency. The representative from UTPL raised some issues not only regarding COVID-19 restrictions, but also pricing and publicity.

Courses planned	Delivery Mode	Original dates	Final dates	Status	Number of participants	End reports
e-Gobierno y e-Gobernanza aplicada a ciudades inteligentes	Online	01-26JUN20	06-31JUL	Implemented	5	Submitted
Gobernanza e Integración de datos en ciudades y comunidades inteligentes	Online	07SEP-02OCT20	09 NOV - 04 DEC	Cancelled	N/A	N/A
e-Gobierno y e-Gobernanza en Ciudades inteligentes	Online	25-28MAY20	26-29OCT	Cancelled	N/A	N/A



TRAINING PLAN 2021

Based on a series of presentations on the training plans for 2021, including details on the content, expected target audience and pricing, the list of 2021 planned trainings has been established.

ANTEL, Uruguay

Training course topic	Training Fee	Starting Date	Ending Date	Type of training
Gestión de la Innovación	USD 100.00	01/03/2021	19/03/2021	Online
Fundamentos en 5G	USD 150.00	07/06/2021	02/07/2021	Online
La protección contra las Radiaciones no ionizantes en los Tiempos del 5G	USD 200.00	06/09/2021	01/10/2021	Online
Hackthon: Innovación para Acelerar la Transformación Digital	0	11/05/2021	25/05/2021	Online

INATEL, Brazil

Training course topic	Training Fee	Starting Date	Ending Date	Type of training
Conocer 4G	0	03/05/2021	09/05/2021	Online
Tecnología celular 4G - LTE	USD 200.00	10/05/2021	25/07/2021	Online
Principales casos del uso de la tecnología 5G e IoT	0	26/07/2021	01/08/2021	Online
5G y el Internet de las Cosas Tendencias y Aplicaciones	USD 150.00	02/08/2021	12/09/2021	Online

INICTEL-UNI, Peru

Training course topic	Training Fee	Starting Date	Ending Date	Type of training
Sistema de Gestión de Seguridad de la Información	USD 300.00	01/06/2021	30/06/2021	Online
Análisis Forense Digital	USD 150.00	01/04/2021	30/04/2021	Online



UBP, Argentina

Training course topic	Training Fee	Starting Date	Ending Date	Type of training
IoT: Conceptos y Aplicaciones	USD 220.00	08/06/2021	20/07/2021	Online
Seguridad en Entornos de Internet de las Cosas (IoT)	USD 200.00	19/10/2021	09/11/2021	Online
Innovación Abierta	USD 160,00	14/09/2021	08/10/2021	Online
Hackthon: Innovación para Acelerar la Transformación Digital	0	11/05/2021	25/05/2021	Online
Tecnología Blockchain Aplicada a las Smart Cities	USD 180.00	10/08/2021	07/09/2021	Online
Del IoT a la Analítica de Datos	USD 180.00	20/04/2021	18/05/2021	Online

UTPL, Ecuador

Training course topic	Training Fee	Starting Date	Ending Date	Type of training
E-Gobierno y E-Gobernanza Aplicada a Ciudades Inteligentes	USD 250.00	02/08/2021	30/08/2021	Online
Gobernanza y Integración de Datos en Ciudades y Comunidades Inteligentes	USD 125.00	06/09/2021	30/09/2021	Online

All presentations made are available on the website:

<https://academy.itu.int/index.php/centres-excellence/coe-cycles/coe-cycle-2019-2022/steering-committees/4th-steering-committee-meetings/americas>.

During this session, during the presentations of CoEs, the following issues were raised:

- The impact of COVID-19 and the importance to of improving e-learning training modality, as well as the positive results of the mid-year review of the training plan to mitigate the impact.
- The importance to come up with a better marketing strategy by both ITU and CoEs and counting on the support of the CoE network to promote their respective



trainings, without competing among them.

- A discount of 50% can be applicable among the CoEs to participants coming from CoEs, to encourage and increase participation.
- The importance to promote a stronger cooperation between CoEs, mainly between those that work under the same priority areas.
- Current pricing policy may represent a bottleneck for CoEs (high-cost trainings) and the benefit of trainings at no cost for participants may be consider.
- Performance of CoEs and the need to follow the process for the validation of training outlines in advance (new ITU Quality Assurance process for training courses/content)
- The relevance of combining soft skills with technical skills addressed by the CoEs in their courses.

4. DISCUSSION ON STRATEGIC AND OPERATIONAL ISSUES RELATED TO THE IMPLEMENTATION OF THE COE NETWORK ACTIVITIES, INCLUDING EXTERNAL ASSESSMENT OF ITU CAPACITY DEVELOPMENT ACTIVITIES, PROCESS OF QUALITY REASSURANCE AND GLOBAL COE MEETING

Ms Susan Teltscher, Head of the Capacity and Digital Skills Development Division of ITU, delivered presentations followed by discussions on new strategic and operations resulting from new changes in ITU managerial perspective for a more Fit4purpose organization. During her intervention, she addressed topics on the ITU feasibility study on the establishing an ITU training institute, the new Quality Assurance process for CoE training content and the respective workflow for developing CoE training plans and training materials, the participation of ITU staff in CoE training courses, and the proposal to organize a global CoE meeting in 2021.

Ms Teltscher briefed the Steering Committee on the background of the feasibility study, as well some of the objectives of the study such as identifying existing gaps and areas of improvement in the area of capacity development – including the CoE programme - and presenting alternative options to improve ITU’s work in this field, mainly considering the new BDT structure based on Thematic Priorities. She also explained that the results of the study may have implications for the future of the CoE programme.

In this sense, the following topics were highlighted and discussed:

- The importance of the work of the ITU Secretariat on the process of quality assurance which requires a closer coordination with CoEs for the presentation and validation of training outlines with the ITU regional leads and Thematic Priority Coordinators before the approval of annual training plans.
- It was agreed that include up to two ITU Staff can participate in CoE courses with the aim of strengthening of the process of the quality assurance at no



cost of participation. At the end, ITU and CoEs could benefit from the feedback of ITU participants.

- It was suggested by CoEs to increase the number of meetings to improve coordination and CoEs welcomed the ITU proposal to hold a Global CoE Meeting in 2021, with specific discussions regarding thematic focus of CoEs across regions and possible cooperation opportunities.
- It was recommended to revise the training plan before the final approval of 2021 activities and analyze the feasibility of implementation of all courses planned for the 2021 cycle. It was recommended that CoEs, especially those with lower implementation rates, reconsidered the number of courses outlined.

The Steering Committee endorsed all proposals and made the following observations

- CoEs agreed to revise the provided outline and short description of planned trainings by 15 December 2020 to establish the training catalogue for 2021. This catalogue shall be then used as a communication tool around the region.
- The CoEs noted that in the next year the training outlines must be submitted 2 (two) months before the Steering Committee meeting to allow for the internal ITU process to take place smoothly.
- ITU Staff is permitted to participate in CoE courses with no training fee. There should be no expectation that they would perform any other task than learning. It is also assumed that after the training they would provide an executive report to ITU Academy team assessing the quality of trainings.
- Possibility to engage with other CoEs to provide joint trainings: It was decided that CoEs have the sole responsibility in developing partnerships and that the ITU Secretariat may not be regarded in those arrangements.
- CoEs agreed to endorse a virtual global meeting of CoEs to be held in the first semester of 2021, which shall provide discussions to facilitate networking between CoEs with similar thematic focus.
- The Steering Committee agreed to hold its next mid-year review meeting in June. A specific date is yet to be determined. The Meeting will focus on implementation of activities during the first semester and finalize the training plans for the second semester.



5. ADOPTION OF DRAFT REPORT AND ADDITIONAL CONCLUSIONS

The Steering Committee agreed that ITU Secretariat will publish a draft outcome report as soon as it has the final approval of SC members, in both languages English and Spanish. The date of the next meeting of the Steering Committee should be identified for consultations and should target the mid-year revision period in June 2021, which will be a virtual meeting.

For the next face-to-face meeting, UBP offered to host it in their premises in December 2021.

6. CLOSING

The meeting ended with closing remarks from Ms. Teltscher, as well as Ms. Veneroso. The Steering Committee Chair, Ms. Grippa also offered her final remarks. The participants expressed sincere thanks to the Chair of the Steering Committee and appreciations for the efforts of the ITU Secretariat, in particular teams of the ITU Office for Americas and Capacity and Digital Skills Development Division, in facilitating smooth running of the meeting.



ANNEX 1: LIST OF PARTICIPANTS

1) Member States

Argentina

Dr. Gustavo Javier FERNANDEZ, Secretariat of Public Innovation - Undersecretariat of Information and Communication Technologies

Barbados

Mr. Renee EVELYN, Ministry of Innovation, Science and Smart Technology

Brazil

Ms. Andrea GRIPPA, Agência Nacional de Telecomunicações - ANATEL

Ms. Patricia ARTUR, Agência Nacional de Telecomunicações - ANATEL

Ms. Hanna Elina KUITUNEN, Agência Nacional de Telecomunicações - ANATEL

Ms. Bertha GADELHA, Ministry of Communications

Ms. Vanderlene RODRIGUES, Ministry of Communications

Ecuador

Ms. Cristina RIBADENEIRA, Ministerio de Telecomunicaciones y de la Sociedad de la Información - MINTEL

Mexico

Mr. Erick HUERTA, Secretaría de Comunicaciones y Transportes

Peru

Mr. Herbert Danilo PALMA, Coordinación de Relaciones Institucionales, Ministerio de Transportes y Comunicaciones

Trinidad and Tobago

Ms. Abigail BYNOE, Strategy and Monitoring, Ministry of Public Administration and Digital Transformation (MPADT)

Uruguay

Ms. Mónica CORREA, Administración Nacional de Telecomunicaciones (ANTEL)

Ms. María José FRANCO, Dirección Nacional de Telecomunicaciones y Servicios de Comunicación Audiovisual (DINATEL)

Number of participant(s): 13



2) ITU-D Sector Members - Other Entities dealing with Telecommunications

Brazil

Fundação Instituto Nacional de Telecomunicações - FINATEL

Mr. Andre ABBADE

Ms. Rosimara SALGADO

Number of participant(s): 2

3) ITU-D Sector Members - Regional Telecommunication Organizations

Inter-American Telecommunication Commission

Ms. Maria FUENMAYOR, Inter-American Telecommunication Commission

Number of participant(s): 1

4) Academia

Ecuador

Universidad Técnica Particular de Loja

Mr. Armando CABRERA, Universidad Técnica Particular de Loja

Peru

INICTEL - UNI

Ms. Kriss OLIVERA VARGAS

Ms. Isabel GUADALUPE

Ms. Carmen ORIONDO,

Eng. Iris PRETEL

Mr. Rubén Eduardo MANIQUE

Number of participant(s): 6

Universidad Blas Pascal, Argentina

Mr. Marco LORENZATTI,

Number of participant(s): 1

ANNEX 2: AGENDA OF THE 4TH STEERING COMMITTEE MEETING

Time	Items
08:30 – 9:00	Online networking and testing of video and audio
09:00 – 09:15	<p>Opening</p> <ul style="list-style-type: none"> • Welcome remarks, Bruno Ramos, Director, ITU Americas Regional Office • Remarks by the outgoing Chair, Cristina Ribadeneira, Director of Promotion of Emerging Technologies at the Undersecretary of Promotion of the Information Society and Digital Economy, MINTEL, Ecuador • Remarks by Susan Teltscher, Head of the Capacity and Digital Skills Development Division of ITU • Confirmation of and remarks by the incoming Chair, Andrea Grippa, Specialist in Regulation, ANATEL, Brazil
	<i>Group picture</i>
09:15 – 10:45	<p>Centres of Excellence presentations: 2020 implementation and training plans for 2021</p> <p>ITU will briefly share an overview of the status of implementation in the region for 2020. Then each CoE will report on the implementation of their 2020 activities. Each presentation should cover the courses that were implemented against the courses planned throughout the entire year (number of participants, feedback received, certificates issues etc), issues faced and lessons learnt, including those from COVID-19.</p> <p>Each CoE will also present their proposals for the training courses they are planning to deliver in 2021, including the topics, exact dates, training fees charged, audience targeted etc. CoEs are expected to submit the information on the course description template provided by ITU and ensure that every field in the template is completed, three weeks before the SC meeting. CoEs are expected to deliver at least 2 training courses per priority area per year. In addition, CoEs may offer courses on emerging topics outside their priority areas if not covered by any other CoE in the region. The objective of the discussion is to agree on the draft training schedule for 2021.</p> <ul style="list-style-type: none"> • Presentation by ITU, Ana Veneroso, Programme Coordinator, ITU Americas Regional Office <ul style="list-style-type: none"> ○ Overview of status of implementation in the region • Presentation, Monica Correa, Representative of ANTEL, Uruguay <ul style="list-style-type: none"> ○ Discussion • Presentation, Andre Abbade, Representative of INATEL, Brazil <ul style="list-style-type: none"> ○ Discussion • Presentation, Iris Pretel, Representative of INICTEL, Peru <ul style="list-style-type: none"> ○ Discussion • Presentation, Marcos Lorenzatti, Representative of UBP, Argentina <ul style="list-style-type: none"> ○ Discussion • Presentation, Armando Cabreara, Representative of UTPL, Ecuador <ul style="list-style-type: none"> ○ Discussion
Break (15 minutes)	



11:00 – 12:00	<p>Discussion on strategic and operational issues related to the implementation of the CoE network activities, including external assessment of ITU capacity development activities, process of quality assurance, ITU staff attending CoE courses and global CoE meeting</p> <ul style="list-style-type: none">• Presentation, Susan Teltscher, Head of the Capacity and Digital Skills Development Division, ITU• Discussion
12:00 – 13:00	<p>Presentation of Draft Report and Adoption</p> <ul style="list-style-type: none">• Ana Veneroso, Programme Coordinator, ITU Americas Regional Office
13:00	Closing remarks



ANNEX 3: IMPLEMENTATION OF COE ACTIVITIES 2020 AS OF 7 DECEMBER 2020

Region	CoE	Courses planned	Delivery mode	Original dates	Final dates	Status	Number of participants registered	Number of participants certified	End-of training reports
AMS	ANTEL	Design Thinking e Innovacion Tecnologica	Online	07-25SEP20	05-23OCT20	cancelled	N/A	N/A	N/A
AMS	ANTEL	Gestion de la Innovacion	Online	04-22MAY20	13-31JUL20	implemented	43	19	Submitted
AMS	ANTEL	Introduccion a Rede SDN y Redes IP	Online	19OCT-13NOV20		cancelled	N/A	N/A	N/A
AMS	ANTEL	Fundamentals on 5G and related technologies	Online	13APR-01MAY20	5-23OCT20	cancelled	N/A	N/A	N/A
AMS	INATEL	Conocer 4G	Online	4-10MAY20		implemented	110	76	Submitted
AMS	INATEL	Tecnologica celular 4G - LTE	Online	11MAY-17JUL20	11MAY-30SEP20	cancelled	N/A	N/A	N/A
AMS	INATEL	Principales casos del uso de la tecnologia 5G	Online	20-26JUL20		implemented	262	163	Submitted
AMS	INATEL	5G y el Internet de las Cosas : Tendencias y Aplicaciones	Online	13JUL-21AUG20	27JUL-25SEP20	implemented	12	9	Submitted
AMS	INICTEL-UNI	Redes de Sensores y Tecnologias Inalambricas para Internet de las Cosas y Ciberseguridad	Online	10-21FEB20		implemented	27	17	Submitted
AMS	INICTEL-UNI	Investigacion Forense	Online	18MAY-08JUN20	5-30OCT20	implemented	13	10	Submitted
AMS	INICTEL-UNI	Fundamentos de Ciberseguriad	Online	03-28 MAR20		implemented	17	15	Submitted
AMS	UBP	Internet de las Cosas : conceptos y aplicaciones	Online	11MAY-19JUN20	26 OCT-04 DEC20	implemented	7		Submitted
AMS	UBP	Seguridad en entornos IoT	Online	10AUG-04SEP20	23 NOV-18 DEC	cancelled	N/A	N/A	N/A
AMS	UBP	Innovación aplicada a la transformacion digital	Online	08JUN-24JUL20	17AUG-09OCT	cancelled	N/A	N/A	N/A
AMS	UBP	Innovación Abierta	Online	16MAR-10APR20	27 APR-22MAY	implemented	48	25	Submitted
AMS	UTPL	e-Gobierno y e-Gobernanza aplicada a ciudades inteligentes	Online	01-26JUN20	06-31JUL	implemented	5	4	Submitted
AMS	UTPL	Gobernanza y Integracio de datos en ciudades y comunidades inteligentes	Online	07SEP-02OCT20	09 NOV - 04 DEC	cancelled	N/A	N/A	N/A
AMS	UTPL	e-Gobierno y e-Gobernanza en Ciudades inteligentes	Online	25-28MAY20	26-29OCT	cancelled	N/A	N/A	N/A

Outcome report – Centre of Excellence – Steering committee meeting 2020



ANNEX 4: IMPLEMENTATION OF COE ACTIVITIES 2019 AS OF 7 DECEMBER 2020

Region	CoE	Courses planned	Delivery mode	Original dates	Final dates	Status	Number of participants registered	Number of participants certified	End-of training reports
AMS	ANTEL	Conceptos generales de 5G y de las tecnologías involucradas	online	13 MAY- 5 JUN	13 MAY-7 JUN	Implemented	9	7	Submitted
AMS	ANTEL	Creatividad para la Innovación 1st edition	online	1-19 JUL	1-19 JUL	Implemented	6	5	Submitted
AMS	ANTEL	Creatividad para la Innovación 2nd edition	online	4-22 NOV	4-22 NOV	Implemented	12	12	Submitted
AMS	ANTEL	Design Thinking e Innovación en Tecnología	online	5-23 AUG	4 NOV-13 DEC	Implemented	17	14	Submitted
AMS	ANTEL	Introducción a SDN en Redes de IP	online	09 SEP-04 OCT	N/A	cancelled	N/A	N/A	N/A
AMS	INATEL	Introducción a las Comunicaciones por Satélite – Parte 1	online	6 MAY – 7 JUN	13 MAY- 14 JUN	Implemented	4	3	Submitted
AMS	INATEL	Sistemas de TV Digital – Parte 1 (Codificación y Multiplexación)	online	29 JUL – 13 SEP	29 JUL – 13 SEP	Implemented	3	3	Submitted
AMS	INATEL	5G - Tendencias y Aplicaciones	online	5 AUG – 13 SEP	N/A	cancelled	N/A	N/A	N/A
AMS	INATEL	Sistemas de Comunicación Digital – Parte 1	online	3 JUN – 3 JUL	N/A	cancelled	N/A	N/A	N/A
AMS	INATEL	Sistemas de Comunicación Digital – Parte 2	online	2 SEP – 2 OCT	N/A	cancelled	N/A	N/A	N/A
AMS	INICTEL-UNI	Fundamentos de Ciberseguridad	online	13 MAY- 5 JUN	23 SEP-11OCT	Implemented	15	14	Submitted
AMS	INICTEL-UNI	Ciberseguridad, la protección de la información en un mundo digital	online	17 JUN-12 JUL	N/A	Cancelled	N/A	N/A	N/A
AMS	INICTEL-UNI	Gestión de Ciberseguridad - Basado en la Norma ISO/IEC 27032	online	5-30 AUG	4AUG-11 NOV	Implemented	17	14	Submitted
AMS	INICTEL-UNI	Gestión de Infraestructuras y Ciberseguridad	online	09 SEP-04 OCT	N/A	Cancelled	N/A	N/A	N/A
AMS	INICTEL-UNI	Protección de datos y criptoanálisis	online	19-23 AGO	19-23 AGO	Implemented	16	14	Submitted
AMS	UBP	Seguridad en Entornos IoT	online	24 APR-24 MAY	24 MAY-21JUN	Implemented	7	6	Submitted
AMS	UBP	Innovación Tecnológica	online	13 MAY- 05 JUL	N/A	cancelled	N/A	N/A	N/A
AMS	UBP	TICs en las Smart Cities	online	17 JUN-09AUG	N/A	cancelled	N/A	N/A	N/A
AMS	UBP	Innovación Abierta	online	5-23 AUG	N/A	cancelled	N/A	N/A	N/A

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AMS	UBP	Design Thinking	online	09 SEP-04 OCT	N/A	cancelled	N/A	N/A	N/A
AMS	UBP	IoT: Conceptos y Aplicaciones	online	05 AUG-13 SEP	09 SEP-18 OCT	Implemented	17	11	Submitted
AMS	UTPL	e-Gobierno y e-Gobernanza en Ciudades Inteligentes	online	3-28 JUN	N/A	cancelled	N/A	N/A	N/A
AMS	UTPL	Análisis, procesamiento y visualización de grandes volúmenes de datos en Ciudades Inteligentes	online	12 AUG – 6 SEP	N/A	cancelled	N/A	N/A	N/A