
Innovation Technologies in Space Systems and Communications Engineering



Training Dates

11 Jan 2021 – 22 Jan 2021

Place

Online Zoom Master Classes



Features

Space system engineers follow, and often lead, space projects from conception to delivery, working with other disciplines to define user needs, define requirements and shape the final design before supporting the project through the assembly, integration and testing phase and finally into operation.

Join our International online School 2021!

Space Systems and Communications Engineering is a crucial discipline within the space sector, and a keen understanding of what it is and how it is applied is key in defining the success of any space mission, from a student-built CubeSat to a commercial communications satellite.

To help prepare the next generation of Space Systems engineers, TU Berlin & COURSENTO in collaboration with EU partner universities is inviting you to participate in the **International online School 2021 “*Innovation Technologies in Space Systems and Communications Engineering*”**, to be held from 11 – 22 January 2021 via Zoom.

The online Master Classes ensure improvement of skills in the field of space systems as well as introduce to the background and challenges of communications engineering. The course will also give students valuable insight into system engineering products and some real-world problems faced by space system engineers.



About SPACECOM

The **“*New Study Program in Space Systems and Communications Engineering*” – SPACE.COM** is a three-year duration multi-country joint project co-funded by the Erasmus+ Capacity Building in the Field of Higher Education Programme of the European Union (EU) launched in 2019.

The **aim** of the project is to support development, implementation and accreditation of new practice oriented, student-focused MA program “SPACE.COM” to ensure sustainability of Uzbekistan space systems engineering.

The project will create the innovative teaching and learning environment for education of high skilled specialists in line with labor market and according to EU best practices and Bologna process. The innovative character of the project will ensure the improvement of engineers’ soft skills.

The SPACE.COM project will also increase industrial cooperation between EU and UZ HEIs and other organizations interested in partnership, including cooperation in the field of space.

Agenda

11 Jan 2021 – 14 Jan 2021

Mo. 11.01.2021	Venue: Online Zoom Master Class
9 AM – 10 AM (CET)	Registration of the participants. Presentation of the study program. Administration issues. Welcome speech by Vice-rector of Sorbonne University Welcome speech TUIT (?)
10 AM – 1 PM (CET)	Research Engineer, MSc Dirk Van Merode, AP University of Applied Sciences and Arts, Antwerp, Belgium Topic: FPGA for Space Applications Content: Introduction to digital systems, Overview of the FPGA market, Overview of the FPGA hardware, VHDL, Digital components, System-on-Chip, FPGAs in Space, DSP on FPGAs
Tue. 12.01.2021	Venue: Online Zoom Master Class
10 AM – 1 PM (CET)	Prof. DSc Slavka Tzanova, Technical University of Sofia, Sofia, Bulgaria Topic: Microelectronics for Information and Communication Technologies Content: 2020 Nanotechnologies for ICT, Memories, Displays
Wed. 13.01.2021	Venue: Online Zoom Master Class
10 AM – 11 PM (CET) 11 PM-12:30 PM	Prof. Lionel Lacassagne, Sorbonne Université, Paris, France Topic: Microelectronics for Space Technologies Content: Embedded Algorithms for real time video Proceeding with restrained Hardware and energy Resources Prof. Julien Sarrazin, Sorbonne Université, Paris, France Topic: Antenna Design for 5G communications

Thu. 14.01.2021	Venue: Online Zoom Master Class
10 AM – 1 PM (CET)	MBA Elena Eyngorn, Technische Universität Berlin, Berlin, Germany Topic: Soft Skills Content: Leadership, Hard Skills, Soft Skills, Presentations Skills
Thu. 15.01.2021	Venue: Online Zoom Master Class
10 AM – 1 PM (CET)	PhD Sergej Dogadov, Technische Universität Berlin, Berlin, Germany Topic: Big Data

18 Jan 2021 – 22 Jan 2021

Mo. 18.01.2021	Venue: Online Zoom Master Class
10 AM – 1 PM (CET)	Associate Prof. Dimitri Galayko, Sorbonne Université, Paris, France Topic: Microelectronics for Information and Communication Technologies Content: Design of analog and mixed integrated Circuits, CAD tools
Tue. 19.01.2021	Venue: Online Zoom Master Class
10 AM – 12 PM (CET)	Dipl.-Ing. Dmitriy Ostroverkhov, Technische Universität Berlin, Berlin, Germany Topic: Satellite Technologies Content: Satellite Communication, Satellite Technologies, Space Technologies
Thu. 20.01.2021	Venue: Online Zoom Master Class
10 AM – 1 PM (CET)	Research Engineer, BSc, MBA Geert Van Hulle, AP University of Applied Sciences and Arts, Antwerp, Belgium Topic: Software Defined Radio



	Content: Introduction, Radio Signal Sampling, Complex Numbers, SDR Receiver, Sample Rates, Filters, SDR Transmitter, Digital Modulation
Fri. 22.01.2021	Venue: Online Zoom Master Class
10 AM – 1 PM (CET)	Associate Prof. Hassan Abouchady, Sorbonne Université, Paris, France Topic: Microelectronics for Information and Communication Technologies Content: Microelectronics for Radiofrequency Communications

TU Berlin

The internationally renowned Technische Universität Berlin (TU Berlin) is located in Germany's capital city at the heart of Europe. With almost 34,500 students, around 100 course offerings and 40 institutes, TU Berlin is one of Germany's largest technical universities. Apart from the main campus in central Berlin, there are further sites across the city of Berlin and a satellite campus in El Gouna, Egypt.

TU Berlin is a member of TU9, which is the alliance of nine of the largest and most notable German institutes of technology. This membership allows for student exchanges between many of the engineering schools.

World University Rankings:

- QS World University Ranking #39
- Times Higher Education World University Rankings*

What else:

- International certificate
- 3 ECTS