

Telecommunication Systems and Technologies

Subject area: Business/management

University:	CTU
Level:	BA all years, MA all years
Teaching mode:	completely online, at specific time
Instructor(s):	prof. Ing. Dusan Maga, PhD.

Short description

The course spotlights the principles and clarity of actual telecommunication means avoiding formulas and mathematical relations. In addition to the description of the technical background, the course also deals with "soft" topics such as history or trade, including the biggest mistakes in telco-business.

Full description

Telecommunications - what does it all mean? We will look at history and the future. We will try it wired and wireless, and even at the speed of light (or almost...), on earth, underwater, and in space. For example:

- How is electricity generated? Morse, the painter. Alexander "ring the" Bell! Telecommunications from above.
- Do you know a Twisted Pair? How a landline works.
- How the telephone network becomes the Internet...
- Light and dark. Transmission of information by light.
- Why are networks "mobile"? 1G, 2G, 3G, 4G, 5G, etc. The more G, the better it is?
- Satellite systems (J. Kepler + A. C. Clarke = E. Musk). What do Saturn and Earth have in common? Does navigation know about me (we will walk around)?
- How television (and Internet TV) works: a football match and a drastic clash of the Titans. • Is WiFi not working? What now...
- Why the Internet is not for people, but things.
- The biggest mistakes in the history of telco-business.

The subject anxiously avoids formulas and mathematical relations (but it does not always succeed...) - the spotlight is pointed on principles and clarity.

Learning outcomes

Overview on telecommunication technologies, basic principles and ideas, etc. Participants will be able to understand the possible problems, and identify the level of difficulty.

General information

Contact hours per week:	2
Total workload:	75 (in student hours for the whole course)
ECTS credits:	3
Language:	English

Course start date: 20 February 2023

Course end date: 28 May 2023

Add. info about start date: Start course date refers to start of the semester at CTU. Schedules will be available 1-2 weeks before semester starts.

Weekly teaching day/time:

Time zone: CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)

Further information: Sessions may be recorded and provided to the students – if required.

Prerequisites: None. Interest in modern technologies, interest in telecommunication means.

Activities and methods: Lectures

Presence on campus:

Final examination

Form: test in Moodle

Date:

Location/format:

Re-sit possibility: yes

Transcript available: end of semester

Add. info/requirements:

Registration

To register for this course, follow the registration requirements of your **home university** as specified here: www.euroteq.eu/courses-registration.

Administration

Number of places:	20-30
Minimum participants:	5
Internal course code:	G77E0007
Contact:	dusan.maga@fel.cvut.cz

This course is part of the EuroTeQ Engineering University joint course catalogue 2023. This is a collaborative activity of the partner universities DTU, L'X, TU/e, TalTech, CTU, TUM as well as Technion. Students from these universities can participate in the offered courses. It is the responsibility of the student to check if you fulfil the requirements to participate in a specific course. Students are also advised to check with their home institution how to get recognition of the ECTS credits gained in courses of the EuroTeQ course catalogue. For further information about EuroTeQ Engineering University, visit www.euroteq.eu or get in touch with the above-mentioned point of contact.