# SYLLABUS

## 1. Data about the program of study

| | |
|---|---|
| 1.1 Institution | Technical University of Cluj-Napoca |
| 1.2 Faculty | Faculty of Electronics, Telecommunications and Information Technology |
| 1.3 Department | Communications |
| 1.4 Field of study | Electronic Engineering, Telecommunications and Information Technologies |
| 1.5 Cycle of study | Bachelor of Science |
| 1.6 Program of study / Qualification | Telecommunications Technologies and Systems/ Engineer |
| 1.7 Form of education | Full time |
| 1.8 Subject code | TST-E58.00 |

## 2. Data about the subject

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2.1 Subject name | Graduation Project | | | | | | |
| 2.2 Subject area | Theoretical area:<br>Methodological area:<br>Analytic area: | | | | | | |
| 2.3 Course responsible | - | | | | | | |
| 2.4 Teacher in charge with seminar / laboratory / project | Diploma Thesis Coordinator | | | | | | |
| 2.5 Year of study | 3 | 2.6 Semester | 8 | 2.7 Assessment | V | 2.8 Subject category | DS/DI |

## 3. Estimated total time

| | | | | | |
|---|---|---|---|---|---|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 0 | 3.3 Project | 4 |
| 3.4 To Total hours in the curriculum | 56 | of which: 3.5 course | 0 | 3.6 Project | 56 |

| Distribution of time | Hours |
|---|---|
| Manual, lecture material and notes, bibliography | 0 |
| Supplementary study in the library, online specialized platforms and in the field | 0 |
| Preparation for seminars / laboratories, homework, reports, portfolios and essays | 0 |
| Tutoring | 0 |
| Exams and tests | 0 |
| Other activities: Practical Work | 44 |

| | |
|---|---|
| 3.7 Total hours of individual study | 44 |
| 3.8 Total hours per semester | 100 |
| 3.9 Number of credit points | 4 |

## 4. Pre-requisites (where appropriate)

| | |
|---|---|
| 4.1 curriculum | N. A. |
| 4.2 competence | N. A. |

**5. Requirements** (where appropriate)

| | |
|---|---|
| 5.1. for the course | N.A. |
| 5.2. for the seminars / laboratories / projects | N.A. |

**6. Specific competences**

| | |
|---|---|
| Professional competences | C6. Solving specific problems of the broadband communications networks: propagation in different environment, circuits and equipment for high frequencies (microwaves and optical). |
| Cross competences | CT1: Methodical analysis of the problems encountered in the activity, identifying the elements for which there are established solutions, thus ensuring the fulfillment of professional tasks.<br>CT2: Defining the activities in each stage and distributing them to the subordinates with the complete explanation of the duties, according to the hierarchical levels. It ensures the efficient exchange of information and inter-human communication.<br>CT3: Adaptation to new technologies, professional and personal development, through continuous training. Use of printed documentation sources, specialized software and electronic resources in Romanian and in (at least) one language of international circulation. |

**7. Discipline objectives** (as results from the key competences gained)

| | |
|---|---|
| 7.1 General objective | Development of diploma project (fundamentals and design parts) in order to obtain the degree Telecommunications Technologies and Systems. |
| 7.2 Specific objectives | 1. Obtaining the fundamental knowledge and designing the proposed solution of the diploma project.<br>2. Preliminary presentation in a competition such as the Student Symposium in Electronics and Telecommunications SSET (optional) |

**8. Contents**

| **8.1. Project** | Teaching methods | Notes |
|---|---|---|
| 1. Research Planning | N/A | N/A |
| 2. State-of-the-art Study | | |
| 3. Fundamental Knowledge | | |
| 4. Solution Design | | |
| 5. Theoretical Evaluation of the Solution | | |
| 6. Proposal for implementation/simulation methods | | |
| 7. Experiments Planning | | |
| **References:**<br>1. Recommended by the Diploma Thesis Coordinator<br>**On-line references**<br>2. Recommended by the Diploma Thesis Coordinator | | |

**9. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field**

The discipline content and the acquired skills are in agreement with the expectations of the professional Competences acquired will be used in the following COR occupations (Electronics Engineer; Telecommunications Engineer; Electronics Design Engineer; System and Computer Design Engineer; Communications Design Engineer) or in the new occupations proposed to be included in COR (Sale Support Engineer; Multimedia Applications Developer; Network Engineer; Communications Systems Test Engineer; Project Manager; Traffic Engineer; Communications Systems Consultant).

**10. Evaluation**

| Activity type | 10.1 Assessment criteria | 10.2 Assessment methods | 10.3 Weight in the final grade |
|---|---|---|---|
| 10.4 Course | - | - | - |
| 10.5 Seminar/ Laboratory | The level of acquired knowledge and abilities | - Continuous formative evaluation<br>- practical lab test | 100% |
| 10.6 Minimum standard of performance | | | |

**Qualitative point of view**

Minimal theoretical and practical knowledge:

- ✓ Development of diploma project: fundamentals parts in order to obtain the degree Telecommunications Technologies and Systems.
- ✓ Development of diploma project: design parts in order to obtain the degree Telecommunications Technologies and Systems.

Minimal acquired competences:

- ✓ Obtaining the fundamental knowledge and designing the proposed solution of the diploma project.

**Quantitative point of view**

Mark ≥ 5

| Date of filling in: | Responsible | Title First name SURNAME | Signature |
|---|---|---|---|
| 16.06.2025 | Applications | Diploma Thesis Coordinator | |
| | | | |

Date of approval in the Council of Communications Department
18.06.2025

Head of Communications Department
Prof. Virgil DOBROTA, Ph.D.

Date of approval in the Council of Faculty of Electronics, Telecommunications and Information Technology
25.06.2025

Dean
Prof. Ovidiu POP, Ph.D.