

**ROMANIAN ACADEMY****School of Advanced Studies of the Romanian Academy (SCOSAAR)****BRIEF COURSE DESCRIPTION: „ELEMENTS OF POST-QUANTUM CRYPTOGRAPHY” 2022****1. Programme information**

|                           |                                                |
|---------------------------|------------------------------------------------|
| <b>1.1 Department</b>     | Doctoral School of Mathematics and Informatics |
| <b>1.2 Institution</b>    | Romanian Academy                               |
| <b>1.3 Field of study</b> | Informatics                                    |
| <b>1.4 Study cycle</b>    | Doctoral studies                               |

**2. Course information**

|                                  |                                       |                     |   |                               |    |                            |      |
|----------------------------------|---------------------------------------|---------------------|---|-------------------------------|----|----------------------------|------|
| <b>2.1 Course title</b>          | Elements of Post-Quantum Cryptography |                     |   |                               |    |                            |      |
| <b>2.2 Course instructor</b>     | Prof. Dr. Ferucio-Laurențiu Țiplea    |                     |   |                               |    |                            |      |
| <b>2.3 Seminar instructor</b>    | Prof. Dr. Ferucio-Laurențiu Țiplea    |                     |   |                               |    |                            |      |
| <b>2.4 Laboratory instructor</b> |                                       |                     |   |                               |    |                            |      |
| <b>2.5 Year of study</b>         | I                                     | <b>2.6 Semester</b> | I | <b>2.7 Type of assessment</b> | E* | <b>2.8 Course category</b> | DF** |

**3. Estimated total time (hours per semester of teaching activities)**

|                                                                                       |  |  |  |  |  |  |     |             |    |                |       |
|---------------------------------------------------------------------------------------|--|--|--|--|--|--|-----|-------------|----|----------------|-------|
| 3.1 Number of hours per week                                                          |  |  |  |  |  |  | 4   | Of which:   |    |                |       |
| 3.2 lecture                                                                           |  |  |  |  |  |  | 2   | 3.3 seminar | 2  | 3.4 laboratory | 0     |
| 3.5 Total hours in the curriculum                                                     |  |  |  |  |  |  | 56  | Of which:   |    |                |       |
| 3.6 lecture                                                                           |  |  |  |  |  |  | 28  | 3.7 seminar | 28 | 3.8 laboratory | 0     |
| Allocation of time:                                                                   |  |  |  |  |  |  |     |             |    |                | hours |
| Study based on textbook, course materials, bibliography and notes                     |  |  |  |  |  |  |     |             |    |                | 60    |
| Additional study in the library, on specialized electronic platforms and in the field |  |  |  |  |  |  |     |             |    |                | 100   |
| Preparation for seminars/laboratories, assignments, reports, portfolios and essays    |  |  |  |  |  |  |     |             |    |                | 100   |
| Tutoring                                                                              |  |  |  |  |  |  |     |             |    |                | 55    |
| Examinations                                                                          |  |  |  |  |  |  |     |             |    |                | 4     |
| Other activities:                                                                     |  |  |  |  |  |  |     |             |    |                | —     |
| 3.9 Total individual study hours                                                      |  |  |  |  |  |  | 319 |             |    |                |       |
| 3.10 Total hours per semester                                                         |  |  |  |  |  |  | 375 |             |    |                |       |
| 3.11 Number of credits                                                                |  |  |  |  |  |  | 15  |             |    |                |       |

**4. Learning outcomes and specific competencies acquired**

1. Mastery of the material taught in the course;
2. Ability to use the presented results in new contexts;
3. The knowledge and skills acquired in this course will provide a foundation for future scientific research and teaching activities.

**5. Assessment**

| Type of activity                                                                                     | 5.1 Assessment criteria | 5.2 Assessment methods   | 5.3 Weight in final grade |
|------------------------------------------------------------------------------------------------------|-------------------------|--------------------------|---------------------------|
| <b>5.4 Lecture</b>                                                                                   | Acquired knowledge      | Written examination      | 65%                       |
| <b>5.5 Seminar</b>                                                                                   | Activity                | Case study presentations | 35%                       |
| <b>5.6 Laboratory</b>                                                                                |                         |                          |                           |
| <b>5.7 Minimum performance standard: Knowledge of 70% of the information contained in the course</b> |                         |                          |                           |

Course instructor signature  
Prof. Dr. Ferucio-Laurențiu Țiplea

Seminar instructor signature  
Prof. Dr. Ferucio-Laurențiu Țiplea

Laboratory instructor signature

\*E = Examination. C = Colloquium.

\*\*DF = Fundamental Course. DS = Specialized Course.