| SPECIAL TEACHING METHODS I |  |  |   |  |  |  |  |  |  |  |
|----------------------------|--|--|---|--|--|--|--|--|--|--|
| 1                          | Course Title:  | SPECIA   | L TEACHING METHODS I  |  |  |  |  |  |  |  |
| 2                          | Course Code:   | MAT300   | 3   |  |  |  |  |  |  |  |
| 3                          | Type of Course:  | Compuls  | ory   |  |  |  |  |  |  |  |
| 4                          | Level of Course:   | First Cyc  | le  |  |  |  |  |  |  |  |
| 5                          | Year of Study:   | 3  |   |  |  |  |  |  |  |  |
| 6                          | Semester:  | 5  |   |  |  |  |  |  |  |  |
| 7                          | ECTS Credits Allocated:                                    | 6.00   |   |  |  |  |  |  |  |  |
| 8                          | Theoretical (hour/week):                                   | 2.00   |   |  |  |  |  |  |  |  |
| 9                          | Practice (hour/week):                                      | 2.00   |   |  |  |  |  |  |  |  |
| 10                         | Laboratory (hour/week):                                    | 0  |   |  |  |  |  |  |  |  |
| 11                         | Prerequisites:   | None   |   |  |  |  |  |  |  |  |
| 12                         | Language:  | Turkish  |   |  |  |  |  |  |  |  |
| 13                         | Mode of Delivery:  | Face to f  | face  |  |  |  |  |  |  |  |
| 14                         | Course Coordinator:  | Prof. Dr.  | Murat Altun   |  |  |  |  |  |  |  |
| 15                         | Course Lecturers:  |  |   |  |  |  |  |  |  |  |
| 16                         | Contact information of the Course<br>Coordinator:          | arslanc@   | ≥istanbul.edu.tr  |  |  |  |  |  |  |  |
| 17                         | Website:   |  |   |  |  |  |  |  |  |  |
| 18                         | Objective of the Course:                                   | An efficient domain-specific teaching methods for teaching mathematics by teachers to ensure understanding and adoption. |   |  |  |  |  |  |  |  |
| 19                         | Contribution of the Course to<br>Professional Development: |  |   |  |  |  |  |  |  |  |
| 20                         | Learning Outcomes:   |  |   |  |  |  |  |  |  |  |
|                            |  | 1  | Knowledge of basic concepts related to learning and teaching mathematics                            |  |  |  |  |  |  |  |
|                            |  | 2  | Application of general teaching methods and techniques of mathematics subject-area                  |  |  |  |  |  |  |  |
|                            |  | 3  | Special teaching methods and techniques of mathematics to explain                                   |  |  |  |  |  |  |  |
|                            |  | 4  | The application of mathematics to special teaching methods and techniques                           |  |  |  |  |  |  |  |
|                            |  | 5 Provide suggestions for teaching different topics in mathematics (numbers, fractions, geometry)                        |   |  |  |  |  |  |  |  |
|                            |  | 6  | Examine with a critical perspective of the subject area textbooks                                   |  |  |  |  |  |  |  |
|                            |  | 7  | To prepare lessons and sample activities and applications which can be used in Teaching Mathematics |  |  |  |  |  |  |  |
|                            |  | 8  |   |  |  |  |  |  |  |  |
|                            |  | 9  |   |  |  |  |  |  |  |  |
|                            |  | 10   |   |  |  |  |  |  |  |  |
| 21                         | 21 Course Content:   |  |   |  |  |  |  |  |  |  |
|                            |  | Co   | ourse Content:  |  |  |  |  |  |  |  |
| Week                       | Theoretical  |  | Practice  |  |  |  |  |  |  |  |
| 1                          | I he birth and development of mathe knowledge              | matical  | I ne nature of mathematics  |  |  |  |  |  |  |  |
| 2                          | Mathematics learning and teaching p                        | process  | Psychological foundations of learning Mathematics   |  |  |  |  |  |  |  |

| 3               | Learr  | Learning theories of mathematics :         |        |          |        |          |       |     |       | Skemp and internal learning, Bruner, and learning through discovery  |   |        |         |                           |      |       |       |  |  |  |
|-----------------|--|--|--------|----------|--------|----------|-------|-----|-------|--|---|--------|---------|---------------------------|------|-------|-------|--|--|--|
| 4               | Learning theories of mathematics :                                 |  |        |          |        |          |       |     |       | Ausubel and learning through the presentation, Hans<br>Freudenthal, and realistic mathematics education,<br>Piaget and the constructivist learning |   |        |         |                           |      |       |       |  |  |  |
| 5               | Teac   | Feaching methods                           |        |          |        |          |       |     |       |  | Active learning                           |        |         |                           |      |       |       |  |  |  |
| 6               | Planr  | ning                                       | and i  | mplem    | nentat | ion of t | eachi | ng  | Ste   | Steps in a training situation  |   |        |         |                           |      |       |       |  |  |  |
| 7               | Meas<br>math   | Measurement and evaluation in mathematics, |        |          |        |          |       |     |       |  | Preparation of the tests and examinations |        |         |                           |      |       |       |  |  |  |
| 8               | Investigation of the curriculum                                    |  |        |          |        |          |       |     |       | Investigation of curriculum goals, objectives, themes, units, activities, etc.   |   |        |         |                           |      |       |       |  |  |  |
| 9               | Mathematics textbooks  |  |        |          |        |          |       |     |       | Investigation of Mathematics textbooks   |   |        |         |                           |      |       |       |  |  |  |
| 10              | What   | is tl                                      | he pro | blem     | and p  | roblem   | solvi | ng? | Cla   | Classification of problems   |   |        |         |                           |      |       |       |  |  |  |
| 11              | Instru   | Instructional Activities                   |        |          |        |          |       |     |       |  | Learning space of numbers                 |        |         |                           |      |       |       |  |  |  |
| 12              | Instru   | uctio                                      | nal A  | ctivitie | s      |          |       |     | Le    | arning   | space                                     | of num | bers    |                           |      |       |       |  |  |  |
| 13              | Instru   | uctio                                      | nal A  | ctivitie | s      |          |       |     | Le    | arning   | space                                     | of num | bers    |                           |      |       |       |  |  |  |
| 14              | Instru   | uctio                                      | nal A  | ctivitie | s      |          |       |     | Le    | arning   | space                                     | of num | bers    |                           |      |       |       |  |  |  |
| 22              | Textb  | pook                                       | s, Re  | ferenc   | es an  | d/or Ot  | ther  |     | Alt   | Altun, M. 2001; Matematik Öğretimi (İlköğretim İkinci  |   |        |         |                           |      |       |       |  |  |  |
| 23              | Assesment  |  |        |          |        |          |       |     |       |  |   |        | a       |                           |      |       |       |  |  |  |
|                 |  |  |        |          |        |          |       |     |       |  |   |        |         |                           |      |       |       |  |  |  |
|                 |  |  |        | _        |        |          | R     | 2   |       | -  |   |        |         |                           |      |       |       |  |  |  |
| Activites       |  |  |        |          |        |          |       | 130 | Numb  | er   |   | Dura   | ition ( | Total Work<br>Load (hour) |      |       |       |  |  |  |
| Finedifexical 1 |  |  |        |          |        |          |       | 50  | 50140 |  |   |        | 2.00    |                           |      | 28.00 |       |  |  |  |
| Practic         | Practicals/Labs  |  |        |          |        |          |       |     | 1     | 14   |   |        |         | 2.00                      |      |       | 28.00 |  |  |  |
| Sentsile        | Sentsibution of Jeper Arear) Learning Activities to                |  |        |          |        |          |       |     | 50    | 50 <sub>0</sub> 00   |   |        |         | 0.00                      |      |       | 0.00  |  |  |  |
| Homew           | lomeworks  |  |        |          |        |          |       |     | - 6   | 6  |   |        | 6.00    |                           |      | 36.00 |       |  |  |  |
| Folicit         | ntribution of Final Exam to Success Grade                          |  |        |          |        |          |       |     |       | 5000   |   |        |         | 0.00                      |      |       | 0.00  |  |  |  |
| Field S         | d Studies  |  |        |          |        |          |       |     |       | 0  |   |        |         | 0.00                      |      |       | 0.00  |  |  |  |
| Mietaern        | aterrements and Evaluation Techniques Used in the                  |  |        |          |        |          |       |     |       | 1  |   |        |         | 15.00                     |      |       | 15.00 |  |  |  |
| Others          | thers  |  |        |          |        |          |       |     |       | 4  |   |        | 6.00    |                           |      | 24.00 |       |  |  |  |
| Final E         | a Ekams  |  |        |          |        |          |       |     |       |  |   |        |         | 15.00                     |      |       | 15.00 |  |  |  |
| Total V         | tal Work Load  |  |        |          |        |          |       |     |       |  |   |        |         | 146.00                    |      |       |       |  |  |  |
| Total w         | tal work load/ 30 hr   |  |        |          |        |          |       |     |       |  |   |        |         | 4.87                      |      |       |       |  |  |  |
| ECTS            | S Credit of the Course   |  |        |          |        |          |       |     |       | 6.00   |   |        |         |                           |      |       |       |  |  |  |
| 25              | 5 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME<br>QUALIFICATIONS |  |        |          |        |          |       |     |       |  |   |        |         |                           |      |       |       |  |  |  |
|                 | P  | PQ1  | PQ2    | PQ3      | PQ4    | PQ5      | PQ6   | PQ7 | PQ8   | PQ9  | PQ1<br>0                                  | PQ11   | PQ12    | PQ1<br>3                  | PQ14 | PQ15  | PQ16  |  |  |  |
| ÖK1             | 2  |  | 3      | 3        | 3      | 3        | 0     | 4   | 0     | 0  | 0   | 0      | 0       | 0                         | 0    | 0     | 0     |  |  |  |
| ÖK2             | 0  | )  | 5      | 3        | 0      | 0        | 0     | 0   | 0     | 0  | 0   | 0      | 0       | 0                         | 0    | 0     | 0     |  |  |  |
| ÖK3             | 0  |  |        |          |        |          |       | 0   | 0     | 0  | 0   | 0      | 0       | 0                         | 0    | 0     |       |  |  |  |
| ÖK4             | 0  | 0 0 0 0 0 0 0                              |        |          |        |          |       |     | 0     | 0  | 0   | 0      | 0       | 0                         | 0    | 0     | 0     |  |  |  |

| ÖK5  | 0                        | 0 | 0 | 4     | 4 | 0        | 5 | 0      | 0 | 0           | 0 | 0 | 0 | 0 | 0 | 0 |
|--|--------------------------|---|---|-------|---|----------|---|--------|---|-------------|---|---|---|---|---|---|
| ÖK6  | 0                        | 0 | 0 | 4     | 4 | 0        | 0 | 0      | 0 | 0           | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK7  | 0                        | 0 | 0 | 0     | 0 | 0        | 0 | 0      | 0 | 0           | 0 | 0 | 0 | 0 | 0 | 0 |
| LO: Learning Objectives PQ: Program Qualifications |                          |   |   |       |   |          |   |        |   |             |   |   |   |   |   |   |
| Contrib<br>ution<br>Level:                         | ib 1 very low<br>n<br>l: |   |   | 2 low |   | 3 Medium |   | 4 High |   | 5 Very High |   |   |   |   |   |   |