

# TOROS ÜNİVERSİTESİ

Faculty Of Fine Arts, Design And Architecture  
Architecture

## Course Information

| MATHEMATICS II |          |             |          |                 |             |
|----------------|----------|-------------|----------|-----------------|-------------|
| Code           | Semester | Theoretical | Practice | National Credit | ECTS Credit |
|                |          | Hour / Week |          |                 |             |
| MAT102         | Spring   | 2           | 0        | 2               | 2           |

|                                             |                                                                                                                                                 |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prerequisites and co-requisites</b>      |                                                                                                                                                 |
| <b>Language of instruction</b>              | Turkish                                                                                                                                         |
| <b>Type</b>                                 | Required                                                                                                                                        |
| <b>Level of Course</b>                      | Bachelor's                                                                                                                                      |
| <b>Lecturer</b>                             | Yusuf GÜL                                                                                                                                       |
| <b>Mode of Delivery</b>                     | Face to Face                                                                                                                                    |
| <b>Suggested Subject</b>                    |                                                                                                                                                 |
| <b>Professional practise ( internship )</b> | None                                                                                                                                            |
| <b>Objectives of the Course</b>             | Understanding basic mathematical concepts and increasing functional thinking                                                                    |
| <b>Contents of the Course</b>               | total proof methods, arrays and series types, limit and limit properties of functions, derivatives and applications, integrals and applications |

## Learning Outcomes of Course

| # | Learning Outcomes                                                              |
|---|--------------------------------------------------------------------------------|
| 1 | Know basic mathematical concepts and number sets                               |
| 2 | Be able to perform operations on number sets                                   |
| 3 | Use problem solving and functional thinking skills in daily life               |
| 4 | demonstrate the ability to use them in other subjects with numerical contents. |
| 5 | Solving the problems practically in daily life                                 |
| 6 | To be able to make commercial operations                                       |

## Course Syllabus

| #  | Subjects                                              | Teaching Methods and Technics    |
|----|-------------------------------------------------------|----------------------------------|
| 1  | complete proof of methods and applications            | exposition,solution of exercises |
| 2  | Arrays and properties, sum and multiplication symbols | exposition,solution of exercises |
| 3  | Series and features                                   | exposition,solution of exercises |
| 4  | limit concept, limit in functions                     | exposition,solution of exercises |
| 5  | uncertainty and uncertainty                           | exposition,solution of exercises |
| 6  | uncertainty and uncertainty                           | exposition,solution of exercises |
| 7  | First midterm exam                                    | classic written exam             |
| 8  | Definition and geometric meaning of derivative,       | exposition,solution of exercises |
| 9  | derivatives of functions                              | exposition,solution of exercises |
| 10 | maximum and minimum problems and solutions            | exposition,solution of exercises |
| 11 | Definition of integral and its applications           | classic written exam             |

|    |                                                 |                                  |
|----|-------------------------------------------------|----------------------------------|
| 12 | Definite integral, integration methods          | exposition,solution of exercises |
| 13 | Volume of rotational bodies, finding arc length | exposition,solution of exercises |
| 14 | shell area calculation                          | exposition,solution of exercises |
| 15 |                                                 |                                  |
| 16 | Final Exam                                      | classic written exam             |

## Course Syllabus

| # | Material / Resources           | Information About Resources | Reference / Recommended Resources |
|---|--------------------------------|-----------------------------|-----------------------------------|
| 1 | Matematik 2 kitabı             | Yusuf GÜL                   | Toros Üniversitesi yayınları      |
| 2 | Differential Equations         | Shepley L.Ross              |                                   |
| 3 | Calculus and analytic geometry | Fisher and ziebur           |                                   |

## Method of Assessment

| # | Weight | Work Type     | Work Title    |
|---|--------|---------------|---------------|
| 1 | 40%    | Mid-Term Exam | Mid-Term Exam |
| 2 | 60%    | Final Exam    | Final Exam    |

## Relationship between Learning Outcomes of Course and Program Outcomes

| # | Learning Outcomes                                                              | Program Outcomes | Method of Assessment |
|---|--------------------------------------------------------------------------------|------------------|----------------------|
| 1 | Know basic mathematical concepts and number sets                               | 1,2              | 1,2                  |
| 2 | Be able to perform operations on number sets                                   | 1,2,3,4,5,6      | 1,2                  |
| 3 | Use problem solving and functional thinking skills in daily life               | 1,2,3,4,5,6      | 1,2                  |
| 4 | demonstrate the ability to use them in other subjects with numerical contents. | 1,2,3,4,5,6,7,8  | 1,2,3                |
| 5 | Solving the problems practically in daily life                                 | 1,2,3,4,5,6,7    | 1,3                  |
| 6 | To be able to make commercial operations                                       | 2,3,4,5,6,7,8    | 1,2,3                |

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

## Work Load Details

| #  | Type of Work                                                  | Quantity | Time (Hour) | Work Load |
|----|---------------------------------------------------------------|----------|-------------|-----------|
| 1  | Course Duration                                               | 14       | 2           | 28        |
| 2  | Course Duration Except Class (Preliminary Study, Enhancement) | 14       | 2           | 28        |
| 3  | Presentation and Seminar Preparation                          | 0        | 0           | 0         |
| 4  | Web Research, Library and Archival Work                       | 0        | 0           | 0         |
| 5  | Document/Information Listing                                  | 0        | 0           | 0         |
| 6  | Workshop                                                      | 0        | 0           | 0         |
| 7  | Preparation for Midterm Exam                                  | 1        | 1           | 1         |
| 8  | Midterm Exam                                                  | 1        | 1           | 1         |
| 9  | Quiz                                                          | 0        | 0           | 0         |
| 10 | Homework                                                      | 0        | 0           | 0         |
| 11 | Midterm Project                                               | 0        | 0           | 0         |
| 12 | Midterm Exercise                                              | 0        | 0           | 0         |
| 13 | Final Project                                                 | 0        | 0           | 0         |
| 14 | Final Exercise                                                | 0        | 0           | 0         |

|    |                            |   |   |           |
|----|----------------------------|---|---|-----------|
| 15 | Preparation for Final Exam | 1 | 1 | 1         |
| 16 | Final Exam                 | 1 | 1 | 1         |
|    |                            |   |   | <b>60</b> |