

Content

| Course Code | Course Name | Semester | Theory | Practice | Lab | Credit | ECTS |
|-------------|---------------------|----------|--------|----------|-----|--------|------|
| MATH 536 | Teaching Experience | 1 | 2 | 0 | 0 | 2 | 5 |

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| Prerequisites | |
| Admission Requirements | |

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| Language of Instruction | Turkish |
| Course Type | Compulsory |
| Course Level | Masters Degree |
| Objective | Teachng the history and philosophy of mathematics |

| Content | Weeks Subjects |
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| | <p>1 Platonism</p> <p>2 Picture proofs</p> <p>3</p> <p>4 Hilbert and Gödel</p> <p>5 Knots and notation</p> <p>6 What is a definition?</p> <p>7 Constructive approach</p> <p>8 Midterm exam</p> <p>9</p> <p>10 Computation, proof and</p> <p>11 How to refute the</p> <p>12 Calling the bluff</p> <p>13</p> <p>14</p> <p>What is applied</p> <p>mathematics?</p> <p>Proofs, pictures and</p> <p>procedures</p> <p>conjecture</p> <p>continuum hypothesis</p> <p>Euler and his</p> <p>contributions to</p> <p>mathematics</p> <p>Gauss and his</p> <p>contributions to</p> <p>mathematics</p> |

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| References | <p>W. Dunham, <i>Journey through Genius: The Great Theorems of Mathematics</i>, Penguin, 1991</p> <p>J. R. Brown, <i>Philosophy of Mathematics: A Contemporary Introduction to the World of Proofs and Pictures</i>, Routledge, 2008</p> |
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Theory Topics

| Week | Weekly Contents |
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| 1 | 1 Platonism |
| 2 | 2 Picture proofs |
| 3 | What is applied mathematics? |
| 4 | 4 Hilbert and Gödel |
| 5 | 5 Knots and notation |
| 6 | 6 What is a definition? |
| 7 | 7 Constructive approach |
| 8 | 8 Midterm exam |
| 9 | Proofs, pictures and procedures |
| 10 | Computation, proof and conjecture |
| 11 | How to refute the continuum hypothesis |
| 12 | Calling the bluff |
| 13 | Euler and his contributions to mathematics |
| 14 | Gauss and his contributions to mathematics |