

Fen Bilimleri Enstitüsü

Metalurji ve Malzeme Mühendisliği (İngilizce) / Metalurji ve Malzeme Mühendisliği (İngilizce)

Doktora

Genel Toplam

Ders Adedi :8

T : 24

U :

Kredi : 60

ECTS : 60

T+U : 24

| 1. YARIYIL |              |  |    |   |            |
|------------|--------------|--|----|---|------------|
| No         | Ders Kodu    | Ders Adı   | T  | U | Kredi ECTS |
| 1          | MSE-E1..4-DR | Elective -1.4 (Ders 1)<br>[Bu ders MSE-E1..4-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| 2          | MSE-E1..4-DR | Elective -1.4 (Ders 2)<br>[Bu ders MSE-E1..4-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| 3          | MSE-E1..4-DR | Elective -1.4 (Ders 3)<br>[Bu ders MSE-E1..4-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| 4          | MSE-E1..4-DR | Elective -1.4 (Ders 4)<br>[Bu ders MSE-E1..4-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| Toplam     |              |  | 12 | 0 | 32 32      |

| 2. YARIYIL |                |   |    |   |            |
|------------|----------------|---|----|---|------------|
| No         | Ders Kodu      | Ders Adı  | T  | U | Kredi ECTS |
| 1          | FBE-ES         | Enstitü Seçimlik (Ders 1)<br>[Bu ders FBE-ES ders grubundan alınacaktır, aşağıya bakınız]         | 3  | 0 | 4 4        |
| 2          | MSE-EC5,6,7-DR | Elective - 5-6-7 (Ders 1)<br>[Bu ders MSE-EC5,6,7-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| 3          | MSE-EC5,6,7-DR | Elective - 5-6-7 (Ders 2)<br>[Bu ders MSE-EC5,6,7-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| 4          | MSE-EC5,6,7-DR | Elective - 5-6-7 (Ders 3)<br>[Bu ders MSE-EC5,6,7-DR ders grubundan alınacaktır, aşağıya bakınız] | 3  | 0 | 8 8        |
| Toplam     |                |   | 12 | 0 | 28 28      |

| MSE-E1..4-DR |           |  |   |   |            |
|--------------|-----------|--|---|---|------------|
| No           | Ders Kodu | Ders Adı   | T | U | Kredi ECTS |
| 1            | MSE8001   | Phase Transformations  | 3 | 0 | 8 8        |
| 2            | MSE8002   | Defect in Materials  | 3 | 0 | 8 8        |
| 3            | MSE8003   | Solid State Chemistry  | 3 | 0 | 8 8        |
| 4            | MSE8004   | Theory of Dislocations   | 3 | 0 | 8 8        |
| 5            | MSE8005   | Advanced Transport Phenomena in Metallurgy   | 3 | 0 | 8 8        |
| 6            | MSE8006   | Introduction to Quantum Mechanics and Modeling of Physical Behavior of Periodic Structures | 3 | 0 | 8 8        |
| 7            | MSE8007   | Fracture and Fatigue of Engineering Materials  | 3 | 0 | 8 8        |
| 8            | MSE8008   | Advanced Magnetic Properties of Materials  | 3 | 0 | 8 8        |
| 9            | MSE8009   | Modeling of Diffusion and Heat Transfer with Finite Difference in Materials Science        | 3 | 0 | 8 8        |
| 10           | MSE8010   | Modeling and Simulation of Chemical Metallurgical Processes                                | 3 | 0 | 8 8        |
| 11           | MSE8011   | Advanced Refractory Materials  | 3 | 0 | 8 8        |
| 12           | MSE8012   | Microstructural Characterization of Materials  | 3 | 0 | 8 8        |
| 13           | MSE8013   | Determination of Intensity, Crystal Structure and Phase Diagrams                           | 3 | 0 | 8 8        |
| 14           | MSE8014   | Advanced Deformation Processing  | 3 | 0 | 8 8        |
| 15           | MSE8015   | Texture and Residual Stress Measurement Techniques   | 3 | 0 | 8 8        |
| 16           | MSE8016   | Advanced Iron and Steel Production   | 3 | 0 | 8 8        |
| 17           | MSE8017   | Corrosion and Advanced Measurement Techniques  | 3 | 0 | 8 8        |
| 18           | MSE8018   | Advanced Glass Chemistry and Technology  | 3 | 0 | 8 8        |
| 19           | MSE8019   | Mechanics of Composite Materials   | 3 | 0 | 8 8        |
| 20           | MSE8020   | Gas-Metal Reactions  | 3 | 0 | 8 8        |
| 21           | MSE8021   | Science and Technology of Nanostructures   | 3 | 0 | 8 8        |
| 22           | MSE8022   | Physical Metallurgy of Aluminum Alloys   | 3 | 0 | 8 8        |
| 23           | MSE8023   | Advanced Extractive Metallurgy   | 3 | 0 | 8 8        |
| 24           | MSE8024   | Diffusion in Solids  | 3 | 0 | 8 8        |
| 25           | MSE8025   | Advanced Powder Metallurgy   | 3 | 0 | 8 8        |

| FBE-ES |           |  |    |   |            |
|--------|-----------|--|----|---|------------|
| No     | Ders Kodu | Ders Adı   | T  | U | Kredi ECTS |
| 1      | FBE8001   | İleri Araştırma Metodları                        | 3  | 0 | 4 4        |
| 2      | FBE8002   | Advanced Research Methods                        | 3  | 0 | 4 4        |
| 3      | FBE8003   | Fen ve Mühendislikte Öğretim ve Öğrenme          | 3  | 0 | 4 4        |
| 4      | FBE8004   | Teaching and learning in Science and Engineering | 30 | 0 | 4 4        |

| MSE-EC5,6,7-DR |           |  |   |   |            |
|----------------|-----------|--|---|---|------------|
| No             | Ders Kodu | Ders Adı                                   | T | U | Kredi ECTS |
| 1              | MSE8001   | Phase Transformations                      | 3 | 0 | 8 8        |
| 2              | MSE8002   | Defect in Materials                        | 3 | 0 | 8 8        |
| 3              | MSE8003   | Solid State Chemistry                      | 3 | 0 | 8 8        |
| 4              | MSE8004   | Theory of Dislocations                     | 3 | 0 | 8 8        |
| 5              | MSE8005   | Advanced Transport Phenomena in Metallurgy | 3 | 0 | 8 8        |

**Fen Bilimleri Enstitüsü****Metalurji ve Malzeme Mühendisliği (İngilizce) / Metalurji ve Malzeme Mühendisliği (İngilizce)****Doktora****Genel Toplam****Ders Adedi :8****T : 24****U :****Kredi : 60****ECTS : 60****T+U : 24**

|    |         |  |   |   |   |   |
|----|---------|--|---|---|---|---|
| 6  | MSE8006 | Introduction to Quantum Mechanics and Modeling of Physical Behavior of Periodic Structures | 3 | 0 | 8 | 8 |
| 7  | MSE8007 | Fracture and Fatigue of Engineering Materials  | 3 | 0 | 8 | 8 |
| 8  | MSE8008 | Advanced Magnetic Properties of Materials  | 3 | 0 | 8 | 8 |
| 9  | MSE8009 | Modeling of Diffusion and Heat Transfer with Finite Difference in Materials Science        | 3 | 0 | 8 | 8 |
| 10 | MSE8010 | Modeling and Simulation of Chemical Metallurgical Processes                                | 3 | 0 | 8 | 8 |
| 11 | MSE8011 | Advanced Refractory Materials  | 3 | 0 | 8 | 8 |
| 12 | MSE8012 | Microstructural Characterization of Materials  | 3 | 0 | 8 | 8 |
| 13 | MSE8013 | Determination of Intensity, Crystal Structure and Phase Diagrams                           | 3 | 0 | 8 | 8 |
| 14 | MSE8014 | Advanced Deformation Processing  | 3 | 0 | 8 | 8 |
| 15 | MSE8015 | Texture and Residual Stress Measurement Techniques   | 3 | 0 | 8 | 8 |
| 16 | MSE8016 | Advanced Iron and Steel Production   | 3 | 0 | 8 | 8 |
| 17 | MSE8017 | Corrosion and Advanced Measurement Techniques  | 3 | 0 | 8 | 8 |
| 18 | MSE8018 | Advanced Glass Chemistry and Technology  | 3 | 0 | 8 | 8 |
| 19 | MSE8019 | Mechanics of Composite Materials   | 3 | 0 | 8 | 8 |
| 20 | MSE8020 | Gas-Metal Reactions  | 3 | 0 | 8 | 8 |
| 21 | MSE8021 | Science and Technology of Nanostructures   | 3 | 0 | 8 | 8 |
| 22 | MSE8022 | Physical Metallurgy of Aluminum Alloys   | 3 | 0 | 8 | 8 |
| 23 | MSE8023 | Advanced Extractive Metallurgy   | 3 | 0 | 8 | 8 |
| 24 | MSE8024 | Diffusion in Solids  | 3 | 0 | 8 | 8 |
| 25 | MSE8025 | Advanced Powder Metallurgy   | 3 | 0 | 8 | 8 |