

| MS in MATERIALS SCIENCE AND NANO ENGINEERING (WITH THESIS) PROGRAM OUTCOMES | | NATIONAL QUALIFICATIONS OF RELATED FIELD* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | ENGINEERING | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | A1 | A2 | A3 | A4 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | C4 | C5 | C6 | D1 | D2 | D3 | D4 | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | F1 | F2 | F3 |
| 1 | Develop the ability to use critical, analytical, and reflective thinking and reasoning | x | | | x | | x | x | x | | x | | | | | x | | x | x | | | x | | | x | x | | | | |
| 2 | Reflect on social and ethical responsibilities in his/her professional life. | | | | | | | | | | | | | | | | | | | | | x | | | | | x | | | |
| 3 | Gain experience and confidence in the dissemination of project/research outputs | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | x |
| 4 | Work responsibly and creatively as an individual or as a member or leader of a team and in multidisciplinary environments. | x | | | | | | | x | x | | | | | | | | | | | | x | | | | | | | x | |
| 5 | Communicate effectively by oral, written, graphical and technological means and have competency in English. | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | x |
| 6 | Independently reach and acquire information, and develop appreciation of the need for continuously learning and updating. | | x | | x | | x | x | | | | | | | | | | x | | | | | | | x | x | | | | |
| 7 | Design and model engineering systems and processes and solve engineering problems with an innovative approach. | x | x | x | | x | x | x | | | x | x | x | x | | | x | x | x | | | | x | x | x | | | | x | |
| 8 | Establish experimental setups, conduct experiments and/or simulations. | | x | x | | x | x | | x | | | x | x | | x | | x | x | | | | | | x | x | | x | | x | |
| 9 | Analytically acquire and interpret data. | | x | x | | x | | | x | | | x | | | x | | x | | | | | | | x | | | x | | x | |
| 10 | Apply a broad knowledge of structure & microstructure of all classes of materials, and the ability to use this knowledge to determine the material properties. | x | | | | | | | | | x | | | | | | | | | | | | x | | | | | | | |
| 11 | Apply a broad understanding of the relationships between material properties, performance and processing. | x | | | | | | | | | x | | | | | | | | | | | | | x | | | | | | |
| 12 | Apply a broad understanding of thermodynamics, kinetics, transport phenomena, phase transformations and materials aspects of advanced technology. | x | | | | | | | | | x | | | | | | | | | | | | | x | | | | | | |
| 13 | Demonstrate hands-on experience using a wide range of materials characterization techniques. | | x | | | | x | | | | | | x | | | | | x | | | | | | | x | x | | | | |
| 14 | Demonstrate the use of results from interpreted data to improve the quality of research, a product, or a product in materials science and engineering. | x | | | | | | | | | x | | | | | | | | | | | | | x | | | | | | |

* Please check <http://tyyc.yok.gov.tr/> for the list of national qualifications.

A: KNOWLEDGE, Theoretical & Factual

B: SKILL, Cognitive & Applied

C: COMPETENCY, Working Independently & Taking Responsibility

D: COMPETENCY, Ability to Learn

E: COMPETENCY, Communication & Social Competencies

F: COMPETENCY, Field Specific