| BSc in MOLECULAR BIOLOGY, GENETICS AND BIOENGINEERING PROGRAM OUTCOMES  |       |                                  |      |      |       |       |      |      |       |       |       |      |       |              |      |      |       |       | NATI  | ONAL QU | ALIFICAT | IONS OF | RELATE | D FIELDS | *     |                                 |      |         |       |       |       |      |        |       |         |       |       |       |      |           |       |
|---|-------|----------------------------------|------|------|-------|-------|------|------|-------|-------|-------|------|-------|--------------|------|------|-------|-------|-------|---------|----------|---------|--------|----------|-------|---------------------------------|------|---------|-------|-------|-------|------|--------|-------|---------|-------|-------|-------|------|-----------|-------|
|   |       | ENGINEERING & ENGINEERING TRADES |      |      |       |       |      |      |       |       |       |      |       | LIFE SCIENCE |      |      |       |       |       |         |          |         |        |          |       | AGRICULTURE, FORESTRY & FISHERY |      |         |       |       |       |      |        |       |         |       |       |       |      |           |       |
|   | A1 B: | 1 B2 I                           | B3 B | 4 B5 | C1 C2 | D1 D2 | D3 D | 4 D5 | D6 D7 | E1 E2 | E3 E4 | E5 I | F1 F2 | F3 A1        | B1 B | 2 B3 | B4 B5 | B6 C1 | C2 C3 | C4 C5   | D1 D2    | D3 D    | 4 E1   | E2 E3    | E4 E5 | E6 F1                           | F2 / | A1 A2 / | A3 A4 | A5 B1 | B2 B3 | C1 C | 2 (3 / | C4 D1 | D2 D3 [ | D4 E1 | E2 E3 | E4 E5 | E6 E | 7 F1 F2 F | F3 F4 |
| 1 Understand the world, their country, their society, as well as themselves and have awareness of ethical problems, social rights, values and responsibility to the self and to others.   |       |                                  |      |      |       |       |      |      |       |       |       | x    | x x   | x            |      |      |       |       |       |         |          |         |        | x        |       | x x                             | x    |         |       |       |       |      |        |       |         | x x   | x x   |       |      | x x       | x x   |
| Understand different disciplines from natural and social sciences to mathematics and art, and develop interdisciplinary approaches in thinking and practice.  | x     |                                  |      |      |       |       | x    |      |       |       |       |      | x     |              |      |      | х     |       |       | х       |          |         |        |          |       |                                 |      |         |       |       |       |      |        | x     |         |       |       |       |      |           |       |
| Think critically, follow innovations and developments in science and technology, demonstrate personal and organizational entrepreneurship and engage in life-long learning in various subjects; have the ability to continue to educate him/herself.  |       |                                  | ×    | (    | x     | x x   |      |      | x     |       | х     | x    |       | x            |      | x    |       |       |       |         | x x      | x :     | •      |          |       |                                 |      | x       |       |       | x x   |      |        | x     | x x     |       |       | x     |      |           |       |
| 4 Communicate effectively in Turkish and English by oral, written, graphical and technological means.   |       |                                  |      |      |       |       |      |      |       | x     |       |      |       |              | x    |      |       |       |       |         |          |         | x      | x        | x     |                                 |      |         |       |       |       |      |        |       |         |       | x     | x     | x    |           |       |
| 5 Take individual and team responsibility, function effectively and respectively as an individual and a member or a leader of a team; and have the skills to work effectively in multi-disciplinary teams.  |       |                                  |      |      | x     |       |      |      | x     |       |       |      | x     |              |      |      |       | ×     | x x   |         |          |         |        | x        |       |                                 |      |         |       |       |       | x x  | x x    |       |         |       |       |       |      | x         |       |
| 6 Possess sufficient knowledge of mathematics, science and program-specific engineering topics; use theoretical and applied knowledge of these areas in complex engineering problems.   | x x   | 1                                |      |      |       |       | x    |      |       |       |       |      |       | х            | х    | (    | х     |       |       | x       |          |         |        |          |       |                                 |      | x x     | x x   | x x   |       |      |        |       |         |       |       |       |      |           |       |
| 7 Identify, define, formulate and solve complex engineering problems; choose and apply suitable analysis and modeling methods for this purpose.   |       | x                                | x    |      |       |       | >    | t    |       |       |       |      |       |              |      |      | x     | x     | x     | х       |          |         | x      | x        |       |                                 |      |         |       |       | x x   |      |        |       |         |       |       | x     |      |           |       |
| Develop, choose and use modern techniques and tools that are needed for analysis and solution of complex problems faced in 8 engineering applications; possess knowledge of standards used in engineering applications; use information technologies effectively.   |       |                                  | x x  | (    |       |       |      | x    | x x   | x     |       |      |       |              |      |      |       |       |       |         |          |         |        |          | x     |                                 |      |         |       |       |       |      |        |       |         |       |       |       | ×    | c .       |       |
| Have the ability to design a complex system, process, instrument or a product under realistic constraints and conditions, with goal of fulfilling specified needs; apply modern design techniques for this purpose.   |       |                                  | x    |      |       |       |      | x    |       |       |       |      |       |              |      |      |       |       |       |         |          |         |        |          |       |                                 |      |         |       |       |       |      |        |       |         |       |       |       |      |           |       |
| Design and conduct experiments, collect data, analyze and interpret the results to investigate complex engineering problems or program-specific research areas.   |       |                                  |      | x    |       |       |      |      |       |       |       |      |       |              |      |      | x     | x x   |       |         |          |         |        |          |       |                                 |      |         |       | ×     |       |      |        |       |         |       |       |       |      |           |       |
| 11 Possess knowledge of business practices such as project management, risk management and change management; awareness on innovation; knowledge of sustainable development.  |       |                                  |      |      |       |       |      |      |       |       |       |      | x     |              |      |      |       |       |       |         |          |         |        |          |       |                                 |      |         |       |       |       |      |        |       |         |       |       |       |      |           |       |
| Possess knowledge of impact of engineering solutions in a global, economic, environmental, health and societal context,<br>12 knowledge of contemporary issues; awareness on legal outcomes of engineering solutions; knowledge of behavior according<br>to ethical principles, understanding of professional and ethical responsibility. |       |                                  |      |      |       |       |      |      |       |       |       | x    |       |              |      |      |       |       |       |         |          |         |        |          |       |                                 |      |         |       |       |       |      |        |       |         |       |       |       |      |           |       |
| Have the ability to write effective reports and comprehend written reports, prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.  |       |                                  |      |      |       |       |      |      |       | x     | x     |      |       |              |      |      |       |       |       |         |          |         |        |          |       |                                 |      |         |       |       |       |      |        |       |         |       |       |       |      |           |       |
| Comprehend key concepts in biology and physiology, with emphasis on molecular genetics, biochemistry and molecular and cell biology as well as advanced mathematics and statistics.   | x x   |                                  |      |      |       |       | x    |      |       |       |       |      |       | х            |      |      |       |       |       |         |          |         |        |          |       |                                 |      | x x     | x x   | x x   |       |      |        |       |         |       |       |       |      |           |       |
| Develop conceptual background for interfacing of biology with engineering for a professional awareness of contemporary biological research questions and the experimental and theoretical methods used to address them.   | x     |                                  |      |      |       |       |      |      |       |       |       |      |       |              |      | x    | x     |       |       |         |          |         |        |          |       |                                 |      | x       |       |       |       |      |        |       |         |       |       |       |      |           |       |

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

A: KNOWLEDGE, Theoretical & Factual

A: NOVILEDGE, Inecretical & actual
B: SKILL, Cognitive & Applied
C: COMPETENCY, Working Independently & Taking Responsibility
D: COMPETENCY, Communication & Social Competencies
F: COMPETENCY, Communication & Social Competencies
F: COMPETENCY, Field Specific