**Zarqa University**
**Skills Matrix**
**Mathematics Program**

# Skills VS. Courses

| Skills VS. Courses | First Year | | | | | | | | Second Year | | | | | | Third Year | | | | | | | | | | | Fourth Year | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Calculus 1 | Calculus 2 | Statistics and Probability | General Physics 1 | General Physics 2 | General Chimistry 1 | Biology 1 | Logic and Set Theory | Calculus 3 | Ordinary Differential Equations 1 | Linear Algebra 1 | Euclidean Geometry | Advance Calculus | Mathematical Physics | Partial Differential Equations 1 | Real Analysis 1 | Theory of Probability | Mathematical Statistics | Abstract Algebra 1 | General Topology 1 | Number Theory | Numerical Analysis 1 | Special Functions | Linear Programming | History of Mathmatics | Ordinary Differential Equations 2 | Integral Equations | Real Analysis 2 | Mathematical Analysis | Complex Analysis | Linear Algebra 2 | Mathematical Packages | Integral Transformation | Partial Differential Equations 2 | Introduction to Functional Analysis | Theory of Matrices | Foundation of Mathematics | Methods in Applied Mathematics |
| **Intended Learning Outcomes: (ILOs)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **A. Knowledge and understanding of:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1- Concepts and Theories. | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| A2- Contemporary Trends, problems and Research. | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | | * | * | * | * | * | | * | | | * | * | * | | * | | * |
| A3- Professional Responsibility. | | | | * | * | * | * | * | | * | | * | | * | * | | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | | * | * | |
| **B.Subject-specific skills:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B1- Problem solving skills. | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| B2-Modeling and Design. | * | * | * | | | | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | | * | * | * | | * | | * |
| B3-Application of Methods and TOOLS. | | * | | * | * | * | * | * | * | * | * | * | | * | * | | * | * | * | * | * | * | * | * | * | * | * | | * | * | * | * | * | * | | * | * | |
| **C. Critical- Thinking Skills** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C1- Analytic skills. | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| C2- Strategic Thinking. | * | * | * | * | * | * | * | * | * | * | | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | | * | * | * |
| C3- Creative thinking and innovation. | | * | | * | * | * | * | * | * | * | | * | * | * | * | | * | * | * | * | * | | * | * | * | * | * | * | * | | * | * | * | * | | * | * | |
| **D. General and Transferable Skills(other skills relevant to employability and personal development)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D1-Communication. | * | | | * | * | * | * | * | | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | | * | * | * | * | * | * | |
| D2- Teamwork and leadership | * | | | * | | | * | * | * | * | * | * | | * | * | * | | * | * | * | * | | * | * | * | * | * | * | * | * | * | * | * | * | | * | | * |