

Izmir Institute of Technology
Department of Civil Engineering
CE 571 Artificial Intelligence Methods in Engineering
Spring 2025-2026 Course Outline

Course Instructor	Dr. Gökmen Tayfur	e-mail: gokmentayfur@iyte.edu.tr
Course Schedule	Wednesday	09:45 – 12:30

Textbook / References

‘Soft Computing in Water Resources Engineering-Artificial Neural Networks, Genetic Algorithm and Fuzzy Logic’ by Gokmen Tayfur, WIT Press, Southampton, United Kingdom, 2012

Objectives

- The objective is to learn the fundamentals and applications of the ANN, GA, and FL.

Course Content

1. Introduction to ANNs
2. Back Propagation Algorithm
3. Applications of ANNs
4. Introduction to GAs
5. GA Operations
6. Applications of GA
7. Introduction to FL
8. FL Operations
9. Applications of FL

Grading

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| 2. | Assignments | %30 |
| 3. | Term Project | %40 |
| 4. | Exam | %30 |