Evolutionary Algorithm

Course Code CIF61052	Student Workload 90 hours	Credits (according to ECTS) 4.5	Semester Sem. 5 Sem. 7	Frequency each odd-semester	Duration 16 meetings

1	Types of courses		contact hours	independent study	class size
	elective		63 hours	27 hours	40 students

2	**Prerequisites for participation**
	Have completed Algorithms and Data Structures course

3	**Learning outcomes**
	IF-PLO-3
	Graduates are able to develop professional careers in the field of computer science based on quality aspects, data-based decision making, be responsible, and make continuous improvements.
	IF-PLO-7
	Mastering the theoretical concept and principles of computer science, especially in the aspect of algorithms, programming, intelligent systems, information management, parallel and distributed computing, information security, human-computer interaction, software engineering, and fundamentals of computer systems and networks.
	IF-PLO-10
	Graduates are able to analyze, design, build and evaluate an intelligent system that has the ability to learn from the environment.

4	**Subject aims**
	Students are able to understand the concept of evolutionary algorithms.
	Students are able to distinguish the components of the evolution algorithm and the operator of the algorithm in it.
	Students are able to understand the basics of solution representation, fitness, and development in simple, varied, and complex cases.
	Students are able to analyze the process of evolution as a step to find out the pattern and behavior of the course of algorithms to get optimal solutions.
	Students are able to develop the concept of implementing the evolution algorithm in a more comprehensive, efficient, effective, applicable and can become a product prototype.

5	**Teaching methods**
	lectures, case study, class discussion, presentation

6	**Assessment methods**
	assignment, mid-term examination, end-term examination, project evaluation, practical-skill assessment

7	**This module is used in the following degree programs as well**

8	**Responsibility for module**

9	**Other information**
	1. Mahmudy, W. F., 2015. Basics of Evolutionary Algorithms, Malang: FILKOM Universitas Brawijaya