MODULE HANDBOOK

Course:	**Artificial Intelligence**
Module Level:	Undergraduate
Code:	FIK310
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	6th / Third year
Module Coordinator:	Dr. Riries Rulaningtyas,S.T.,M.T.
Lecturer(s):	Dr. Riries Rulaningtyas,S.T.,M.T. and Dr. Soegianto Soelistiono,Ir.,M.si.
Language:	Bahasa Indonesia
Classification within the curriculum:	~~Compulsory Course~~ / Elective Course
Teaching format / class hours per week during semester:	2 hours of lectures (50 min / hour)
Workload:	2 hours of lectures, 2 hours of structural activities, 2 hours of individual study, 13 weeks per semester, and total of 78 hours per semester ~ 2.6 ECTS*
Credit Points:	2
Requirement(s):	(FIK303) Computational Physics Programming and (FIK305) Computational Physics
Learning Goals/Competencies:	**General Competence (Knowledge):** After following this course, students are able to apply the concept of artificial intelligence systems and support the completion of artificial intelligence systems application for applied Physics in industrial and medical. **Specific Competence:** 1. Students are able to implement fuzzt logic theory in artificial intelligence applications. 2. Students are able to encode ANN in physics artificial intelligence applications.
Contents:	Fuzzy Set Theory. Fuzzy Logic Theory, Membership Functions, Fuzzy Inference Systems, Fuzzy Control Systems, Fuzzy PID controllers, Some Applications of Fuzzy Control, Basic Principles of ANN and their early structure, Back propagation, ANN method, Statistical Training, Genetic Algorithm
Soft Skill Attribute:	Effort and ethic
Study/Exam Achievements:	Final score is calculated as follow: 15% assignment 1 + 15% assignment 2 + 35% midterm exam + 35% final exam Final grade is defined as follow: A : 75 – 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99
Forms of Media:	Powerpoint slides, LCD projectors and whiteboards

Learning Methods:	Lectures and assessments
Literature(s):	1. Fauset, L., 1994, *Fundamental of Neural Network*. Prentice Hall, Inc, United Stated. 2. Chen, G., Pham, T.T., 2001, *Fuzzy Sets, Fuzzy Logic and Fuzzy Control Systems*, CRC Press 3. Graupe, D., 2007, *Principles of Artificial Neural Networks*, second edition, World Scientific, USA. 4. Coley, D., 1999, *An Introduction to Genetic Algorithms for Scientists and Engineers*, World Scientific, USA.
Notes:	*Total ECTS ={(total hours workload x 50min)/60 min)/25 hours each ECTS is equal with 25 hours