

<b>Module Code</b>	<b>MA4043</b>	<b>Title</b>	<b>Neural Network and Fuzzy Logic</b>			
<b>Credits</b>	<b>03</b>	<b>Hours/Week</b>	<b>Lectures</b>	<b>03</b>	<b>Pre-requisites</b>	<b>MA1013</b>
			<b>Lab/Tutorials</b>	<b>-</b>		

**Learning Outcomes**

At the end of this module the student should be able to

- Understand the learning in Artificial Neural Networks (ANN)
- Understand Artificial Neural Network Topologies
- Understand Learning Algorithms
- Understand various Neural Network Paradigms
- Understand Fuzzy rule generation
- Understand Defuzzification of fuzzy logic
- Understand Temporal Fuzzy logic(TFL)
- Apply TFL in Communication systems
- Understand Fuzzy Neural Networks
- Apply in Signal processing , Communication systems and optimization systems

**Outline Syllabus**

- Neuron physiology, Artificial Neural Networks(ANN) concepts: Topologies, learning algorithms;
- Neural network paradigms: McCulloch-Pitts model, ADALINE and MADALINE models, Hopfield model, competitive learning model, real-time model, Probabilistic Neural Network (PNN).
- Fuzzy logic, temporal fuzzy logic, fuzzy neural networks, application.