ARTIFICIAL INTELLIGENCE SYLLABUS

Course Details	
Language of Instruction	English
Level of Course Unit	Bachelor Degree
Department / Program	Computer Engineering
Mode of Delivery	Face to Face
Type of Course Unit	Compulsory
Objectives of the Course	The objective of this course is to provide students with an understanding of the concepts of artificial intelligence learning models, and how they can be developed and used theoretically.
Course Content	Evaluation of Learning Model Performance, Instance-Based Learning, Probabilistic Learning, Decision Tree Based Learning, Regression Based Learning, Artificial Neural Networks Based Learning, Kernel Based Learning, Distance-Based Neural Networks Learning, Clustering Based Learning, Association Rule Based Learning, To decide which artificial intelligence learning model is appropriate for a given set of data.
Name of Lecturers	Associate Prof.Dr. Adem Tekerek
Recommended or Required Reading	
Resources	 Stephen Marsland, Machine Learning: An Algorithmic Perspective, Crc Press, 2009. Sunila Gollapudi, Practical Machine Learning, Packt Publishing Ltd., Birmingham ? Mumbai, January 2016. Ashish Kumar, Learning Predictive Analytics with Python, Packt Publishing Ltd., Birmingham ? Mumbai, February 2016. Peter Harrington, Machine Learning in Action, Manning Publications Co., 2012.
Course Category	
Engineering	100%
Assessment Methods and Criteria	
In-Term Studies	Quantity
Mid-terms	1
Projects	1
Final examination	1
Total	3
ECTS Allocated Based on Student Workload	
Activities	Quantity
Weekly Theoretical Course Hours	14
Reading Tasks	14
Searching in Internet and Library	14
Report Preparing	2
Preparing a Presentation	2
Midterm Exam and Preperation for Midterm	
Exam	1

Final Exam and Preperation for Final Exam	1
Total Work Load	
Course Learning Outcomes: Upon the successful completion of this course, students will be able to:	
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1	Students will be able to determine engineering problems to which artificial intelligence techniques can be applied.
2	model that is intelligent and learns from experience in order to solve engineering problems.
3	Students will be able to apply powerful predictive artificial intelligence models for intelligent data analysis. Students will be able to evaluate the applicability of more advanced models and techniques.
4	Students will be able to analyze and interpret the performance of artificial intelligence models that behave intelligent and learn from experience.
Weekly Detailed Course Contents	
Week	Topics
1	
1	Introduction to Artificial Intelligence Learning Models
2	Introduction to Artificial Intelligence Learning Models Evaluation of Learning Model Performance
2 3	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based Learning
1 2 3 4	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic Learning
1 2 3 4 5	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based Learning
1 2 3 4 5 6	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based Learning
1 2 3 4 5 6 7	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based Learning
1 2 3 4 5 6 7 8	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based LearningKernel Based Learning + Middterm Exam
1 2 3 4 5 6 7 8 9	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based LearningKernel Based Learning + Middterm ExamDistance-Based Neural Networks Learning
1 2 3 4 5 6 7 8 9 10	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based LearningKernel Based Learning + Middterm ExamDistance-Based Neural Networks LearningClustering Based Learning
1 2 3 4 5 6 7 8 9 10 11	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based LearningKernel Based Learning + Middterm ExamDistance-Based Neural Networks LearningClustering Based LearningAssociation Rule Based Learning
1 2 3 4 5 6 7 8 9 10 11 12	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based LearningKernel Based Learning + Middterm ExamDistance-Based Neural Networks LearningClustering Based LearningAssociation Rule Based LearningProject Presentations
1 2 3 4 5 6 7 8 9 10 11 12 13	Introduction to Artificial Intelligence Learning ModelsEvaluation of Learning Model PerformanceInstance-Based LearningProbabilistic LearningDecision Tree Based LearningRegression Based LearningArtificial Neural Networks Based LearningKernel Based Learning + Middterm ExamDistance-Based Neural Networks LearningClustering Based LearningAssociation Rule Based LearningProject PresentationsProject Presentations