



NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI
DEPARTMENT OF COMPUTER APPLICATIONS

COURSE PLAN – PART I			
Name of the programme and specialization	M.Sc. Computer Science		
Course Title	Artificial Intelligence		
Course Code	CAS773	No. of Credits	3
Course Code of Pre-requisite subject(s)	-		
Session	July 2019	Section (if, applicable)	-
Name of Faculty	Dr. R. Eswari	Department	Computer Applications
Email	eswari@nitt.edu	Telephone No.	0431-2503744
Name of Course Coordinator(s) (if, applicable)	Dr. Michael Arock		
E-mail	michael@nitt.edu	Telephone No.	0431-2503736
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
Syllabus (approved in BoS)			
<p>Philosophy of artificial intelligence, problem solving, search techniques, constraint satisfaction, and game playing - minimax, handling uncertainty: probability theory, Bayesian Networks.</p> <p>Knowledge representation and reasoning: predicate logic, rule based systems, Decision tree, Semantic networks, Ontology, Basics of Semantic Web</p> <p>Machine learning- Supervised learning- Regression, Classification; unsupervised learning- Clustering; Reinforcement learning,</p> <p>Computational Intelligence- Fuzzy systems, Swarm intelligence, neural networks models- Learning through neural nets; Basics of Deep learning</p> <p>Applications of Artificial Intelligence- Natural Language Processing, Speech recognition, Computer vision, Expert systems</p>			
COURSE OBJECTIVES			
<ul style="list-style-type: none"> To explore various AI search algorithms To understand fundamentals of knowledge representation To acquire knowledge on the basic concepts and techniques of Machine Learning. To gain knowledge on the applications of AI 			

Mapping of COs with POs	
Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
<ul style="list-style-type: none"> Know how to build simple knowledge-based systems 	1,3
<ul style="list-style-type: none"> Apply knowledge representation and machine learning techniques to solve real world problems 	1,2,3,4
<ul style="list-style-type: none"> Apply Computational Intelligence techniques to solve real-world problems 	1,2,3,4,5

COURSE PLAN – PART II			
COURSE OVERVIEW			
<p>This course introduces the concept of artificial intelligence and deals the problem solving methods. It discusses the ways to represent knowledge and how to reason logically with that knowledge. It describes machine learning and computational intelligence techniques for solving the real world problems. Finally, the course discusses various applications of artificial intelligence.</p>			
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	1	Philosophy of artificial intelligence, problem solving, search techniques	Chalk and Talk , Power Point Presentation
2	2	constraint satisfaction, and game playing - minimax, handling uncertainty: probability theory	-do-
3	3	Bayesian Networks. Knowledge representation and reasoning: predicate logic, rule based systems	-do-
4	4	Decision tree, Semantic networks	-do-
5	5	Ontology, Basics of Semantic Web	-do-
6	6	Machine learning- Supervised learning- Regression	-do-
7	7	Classification; unsupervised learning- Clustering	-do-

8	8	Reinforcement learning, Computational Intelligence- Fuzzy systems	-do-
9	9	Swarm intelligence, neural networks models	-do-
10	10	Learning through neural nets; Basics of Deep learning	-do-
11	11	Applications of Artificial Intelligence- Natural Language Processing	-do-
12	12	Speech recognition, Computer vision, Expert systems	-do-

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Cycle test1	Week 7	1 Hr	15
2	Cycle test2	Week 11	1 Hr	15
3	Problem solving	Week 4, Week7, Week 11		20
4	Compensation Assessment	Week 12	1 Hr	15
5	Final Assessment	At the end of course	3 hrs	50

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

- The students through the class representative may give their feedback at any time to the course faculty which will be duly addressed.
- The students may also give their feedback during Class Committee meeting.

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

The students can get the availability of faculty member over phone and email. They can get their doubts clarified at any time with their faculty member with prior appointment.

COMPENSATION ASSESSMENT

One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- **At least 75% attendance in each course is mandatory.**
- **A maximum of 10% shall be allowed under On Duty (OD) category.**
- Students with **less than 65% of attendance** shall be prevented from writing the final assessment and **shall be awarded 'V' grade.**

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.

The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION

FOR APPROVAL

Course Faculty  CC-Chairperson  HOD 