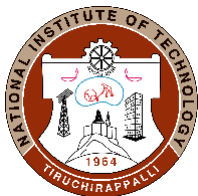




COURSE PLAN – PART I			
Name of the programme and specialization	B. Tech - CSE		
Course Title	Artificial Intelligence		
Course Code	CSMI17	No. of Credits	3
Course Code of Pre-requisite subject(s)		Semester	V
Session	July 2023	Section (if, applicable)	-
Name of Faculty	Dr. C. Oswald	Department	CSE
Official Email	oswald@nitt.edu	Telephone No.	NIL
Name of Course Coordinator(s) (if, applicable)	NIL		
Official E-mail	NIL	Telephone No.	NIL
Course Type (please tick appropriately)	Elective course		
Syllabus (approved in BoS)			
<p>UNIT I Introduction Introduction - Definition - Future of Artificial Intelligence - Characteristics of Intelligent Agents - Typical Intelligent Agents - Problem Solving Approach to Typical AI problems.</p> <p>UNIT II Problem Solving Methods Problem solving Methods - Search Strategies - Uninformed - Informed - Heuristics - Local Search Algorithms and Optimization Problems - Searching with Partial Observations - Backtracking Search - Performance of search algorithms.</p> <p>UNIT III Knowledge Representation First Order Predicate Logic - Unification - Forward Chaining - Backward Chaining - Resolution - Knowledge Representation using First order Predicate logic - Reasoning Systems.</p> <p>UNIT IV Planning Planning with state-space search - partial-order planning - planning graphs - planning and acting in the real world - Plan generation systems.</p> <p>UNIT V Uncertain Knowledge and Reasoning Uncertainty - review of probability - probabilistic Reasoning - Bayesian networks - inferences in Bayesian networks - Temporal models - Hidden Markov models.</p> <p>TEXT BOOKS 1. S. Russel, P. Norvig, “Artificial Intelligence – A Modern Approach”, Third Edition, Pearson Education, 2015.</p>			



2. Kevin Night, Elaine Rich, Nair B., “Artificial Intelligence (SIE)”, Third Edition, McGraw Hill, 2017.
3. Dan W. Patterson, “Introduction to AI and ES”, Pearson Education, 2007.

COURSE OBJECTIVES

- To understand the various characteristics of Intelligent agents
- To learn the different search strategies in AI
- To learn to represent knowledge in solving AI problems
- To understand the ways of planning and acting in the real world
- To know about the models behind the AI application

MAPPING OF COs with POs

Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
1. Ability to design a plan for the real world problems and mapping it to the digital world	3,4,5,6,11
2. Apply to identify problems that are amenable solved by AI methods	2,4,6,12

COURSE PLAN – PART II

COURSE OVERVIEW

This course covers big data analysis techniques and tools, focusing on ways to handle large-scale data efficiently using various algorithms.

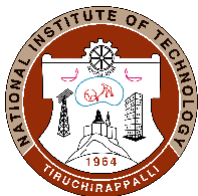
COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	31/07/2023 to 04/08/2023 3 hours	Introduction - Definition	Chalk and Talk with PPT Presentation
2	07/08/2023 to 11/08/2023 3 hours	Future of Artificial Intelligence - Characteristics of Intelligent Agents	Chalk and Talk with PPT Presentation
3	14/08/2023 to 18/08/2023 2 hours	Problem Solving Approach to Typical AI problems	Chalk and Talk with PPT Presentation



4	21/08/2023 to 25/08/2023 3 hours	UNIT II Problem Solving Methods - Problem solving Methods - Search Strategies	Chalk and Talk with PPT Presentation
5	28/08/2023 to 01/09/2023 3 hours	Uninformed - Informed – Heuristics - Local Search Algorithms and Optimization Problems	Chalk and Talk with PPT Presentation
6	04/09/2023 to 08/09/2023 3 hours	Searching with Partial Observations - Backtracking Search - Performance of search algorithms	Chalk and Talk with PPT Presentation
7	11/09/2023 1 hour	Cycle Test-1	
8	13/09/2023 to 15/09/2023 2 hours	UNIT III Knowledge Representation First Order Predicate Logic	Chalk and Talk with PPT Presentation
9	18/09/2023 to 22/09/2023 2 hours	Unification - Forward Chaining - Backward Chaining - Resolution	Chalk and Talk with PPT Presentation
10	25/09/2023 to 29/09/2023 3 hours	Knowledge Representation using First order Predicate logic – Reasoning Systems - UNIT IV Planning - Planning with state-space search - partial-order planning	Chalk and Talk with PPT Presentation
11	02/10/2023 to 06/10/2023 2 hours	Planning graphs - planning and acting in the real world - Plan generation systems.	Chalk and Talk with PPT Presentation
12	09/10/2023 1 hour	Cycle Test- 2	
13	11/10/2023 to 13/10/2023 2 hours	UNIT V Uncertain Knowledge and Reasoning Uncertainty	Chalk and Talk with PPT Presentation
14	16/10/2023 to 20/10/2023 3 hours	Review of probability - probabilistic Reasoning	Chalk and Talk with PPT Presentation
15	23/10/2023 to 27/10/2023 2 hours	Bayesian networks	Chalk and Talk with PPT Presentation
16	30/10/2023 to 03/11/2023 3 hours	Inferences in Bayesian networks Temporal models	Chalk and Talk with PPT Presentation



17	06/11/2023 to 10/11/2023 3 hours	Hidden Markov models	Chalk and Talk with PPT Presentation
18	13/11/2023 to 17/11/2023 3 hours	Quiz Assessment, Compensatory Exam	Chalk and Talk with PPT Presentation

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Cycle Test 1	11/09/2023	1 hour	20
2	Cycle Test 2	09/10/2023	1 hour	20
3	Moodle Quiz and Surprise Quizzes	13/09/2023 to 17/11/2023	2 hours	20
CPA	Compensation Assessment*	As per academic schedule	1 hour	20
4	Final Assessment *	As per academic schedule	3 hours	40

***mandatory; refer to guidelines on page 4**

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

1. Students' feedback through PAC meetings
2. Feedbacks are collected before final examination through MIS or any other standard format followed by the institute
3. Students, through their Class Representatives, may give their feedback at any time to the course faculty which will be duly addressed.

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

Email Microsoft Teams Group

COMPENSATION ASSESSMENT POLICY

1. One compensation assessment will be given after completion of Cycle Test 1 and 2 for the students those who are absent for any assessment due to genuine reason.
2. Compensatory assessments would cover the syllabus of Cycle tests 1 & 2
3. The prior permission and required documents must be submitted for absence signed by



HoD/CSE.

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.

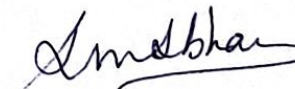
ADDITIONAL INFORMATION, IF ANY

1. The Course Coordinator is available for consultation during the time intimated to the students
2. Relative grading adhering to the instructions from the office of the dean (Academic) will be adopted for the course.

FOR APPROVAL


Course Faculty


CC- Chairperson


HOD



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.