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Maharashtra Institute of Technology

(An Autonomous Institute)

Affiliated to Dr. Babasaheb Ambedkar Marathwada University (Dr. BAMU), Aurangabad
AICTE Approved, (Accredited with "Grade A" by NAAC)

Department of Emerging Science & Technology

Course Code: AID225 Course: **Lab-V Data Analytics Lab** **Class: SY (AIDS)**

Autonomous

Course Outcome:- Students are able to

CO1: Explain the R programming basics syntax (I. Understand)

CO2: Describe descriptive statistics in R. (II. Understand)

CO3: Write R script to read different types of data set . (III. Apply)

CO4: Demonstrate the data distribution using various plots (III. Apply)

CO5: Analyze datasets for regression, classification and clustering (IV. Analyze)

CO6: Build the model for their selected dataset. (VI. Create)

CO-PO and CO-PSO mapping

CO	PO1	PO2	PO3	PO4	PO5	PO8	PO9	PO10	PSO1	PSO2
CO1	2	-	-	-	-	-	-	-	2	-
CO2	2	-	-	-	1	-	-	-	2	-
CO3	-	2	-	-	-	-	-	-	-	-
CO4	-	2	-	-	-	-	-	-	-	2
CO5	1	1	1	1	-	-	-	-	-	2
CO6	-	1	1	1	1	1	1	1	-	2
Average	1.6	1.5	1	1	1	1	1	1	2	2
Mapping Strength	1.6	1.0	1	1	1	1	1	1	2	2

Course teacher
Ms. Kanchan Bhale

Program Coordinator
Dr. Kavita Bhosle

AID251: Database Management System

Class: S.Y. (AIDS)

Step 1: Write Course Outcomes using Revised Bloom's Taxonomy

- CO1: Explain basic concept of database management system and its architecture. (I. Knowledge)
- CO2: Analyze and design Database Management System using ER model (I. Knowledge)
- CO3: Normalize the database design using normal forms (III. Apply)
- CO4: Implement different types of SQL queries on data (III. Apply)
- CO5: Illustrate ACID properties for transaction management and concurrency control (I. Knowledge)
- CO6: Compare NoSQL databases with SQL databases (I. Knowledge)

Step 2: Locate COs in Revised Bloom-Vincenti Taxonomy Table

Cognitive Processes	**Knowledge Categories**							
	Factual	Conceptual	Procedural	Meta-cognitive	Fundamental Design Principles	Criteria & Specifications	Practical Constraints	Design instrumentatalities
Remember	CO1	CO5						
Understand	CO3,CO4	CO2, CO3, CO6						
Apply	CO4							
Analyze								
Evaluate								
Create								

Step 3: Tag course outcomes with Program Outcomes (POs,) Program Specific Outcomes (PSOs,) Cognitive Level (CL), Knowledge Categories (KC), number of Class/Laboratory/Field sessions

	Course Outcome	**POs/ PSOs**	**CL**	**KC**	**Class Sessions**	**Tutorial (Hrs)**
CO1	Explain basic concept of database management system and its architecture.	PO1, PSO1	U	F,C	07	00

CO2	Analyze and design Database Management System using ER model	PO1, PO2, PSO1	U	C	08	00
CO3	Normalize the database design using normal forms	PO1, PSO1	U	F,C	07	00
CO4	Implement different types of SQL queries on data	PO1, PO2, PSO1	U	F,C	07	00
CO5	Illustrate ACID properties for transaction management and concurrency control	PO1, PSO1	Ap	C	07	00
CO6	Compare NoSQL databases with SQL databases	PO1, PSO1	Ap	C	07	00
Total Hours of instruction					**36**	**00**

Step 4: Decide on Strength of CO-PO/PSO Mapping

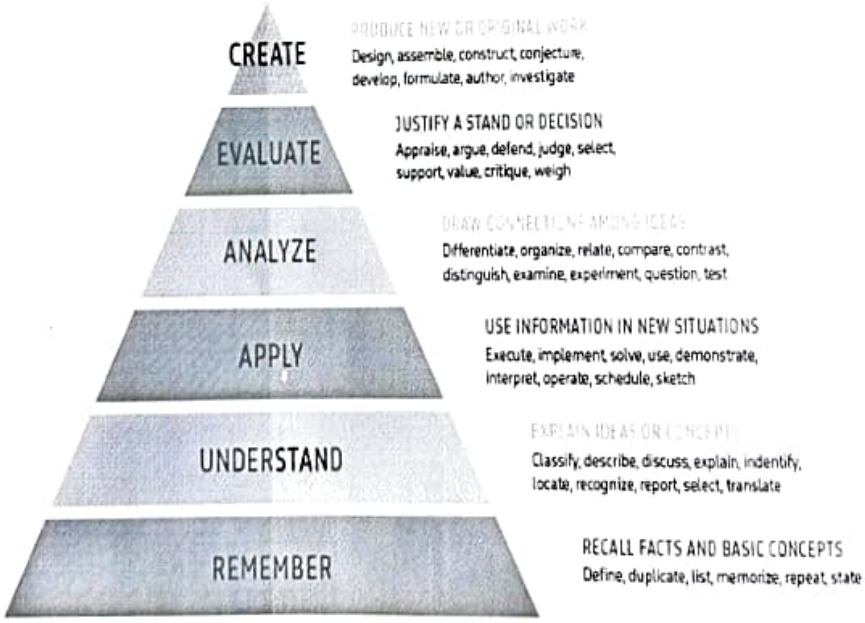
Example (Showing only non-zero mapping entries):

CO	PO1	PO2	PO3	PO4	PSO1	PSO2
CO1	2	-	-		2	
CO2	2	2	-	-	2	
CO3	2	-	-	-	2	
CO4	2	1	-	-	2	
CO5	1	-	-	-	1	
CO6	1	2	-	-	1	
Average	1.6	1.6	-	-	1.66	
Mapping Strength	1.6	1.6	-	-	1.66	

Step 5: Identify the Assessment Items/Assessment Instruments, Delivery Technologies, and Instruction types.

COs	Assessment Items/Assessment Instruments		Delivery Technologies	Instruction types
CO1	MSE-1/CIE-Survey	ESE	Chalk & Board	Teaching Plan
CO2	MSE-1/CIE Case Study/Quiz	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO3	MSE-2 / TA-OBT	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO4	MSE-2/TA-OBT/CIE- Project based Learning	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO5	TA- Prepare Questionnaire	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO6	TA- Prepare Questionnaire	ESE	Chalk & Board PPT Presentation	Teaching Plan

Ms. K. M. Bhale



AID252: Data Communication Network Class: SY

Step 1: Write Course Outcomes using Revised Bloom's Taxonomy

CO1	Identify Data communication network component and Topology. (I. Remember, II. Understand)
CO2	Classify Communication signals and Transmission media. (II Understand)
CO3	Illustrate application of ISO OSI Layered Architecture of Network
CO4	Discover Application Layer Protocols. (II Understand , III. Apply)
CO5	Operate network components and learn configuration (III. Apply)
CO6	Compute network routing algorithms with packet tracing (III. Apply)

Step 2: Locate COs in Revised Bloom-Vincenti Taxonomy Table

Locating Sample CO in Revised Bloom-Vincenti Taxonomy Table

Cognitive Processes	**Knowledge Categories**							
	Factual	Conceptual	Procedural	Meta cognitive	Fundamental Design Principles	Criteria & Specifications	Practical Constraints	Design instrumentalities
Remember	CO1							
Understand		CO2, CO3						
Apply			CO4, CO5, CO6					
Analyze								
Evaluate								
Create								

Step 3: Tag course outcomes with Program Outcomes (POs,) Program Specific Outcomes (PSOs,) Cognitive Level (CL), Knowledge Categories (KC), numberofClass/Laboratory/Fieldsessions, and present it in the table format indicated with sample course Machine Drawing - Credits: 3:1:0

	Course Outcome	**POs/ PSOs**	**CL**	**KC**	**Class Sessions**	**Tutorial (Hrs)**
CO1	Identify Data communication network component and Topology. (I. Remember, II. Understand)	PO1	U	C,F	06	00
CO2	Classify Communication signals and Transmission media. (II Understand)	PO1	U	C	06	00
CO3	Illustrate application of ISO OSI Layered Architecture of Network	PO1	U	C	06	00
CO4	Discover Application Layer Protocols. (II Understand , III. Apply)	PO1	Ap	P	06	00
CO5	Operate network components and learn	PO2	Ap	P,F	06	

	configuration (III. Apply)					
CO6	Compute network routing algorithms with packet tracing (III. Apply)	PO2	Ap	P	06	
Total Hours of instruction					36	00

Cognitive levels

R-Remember, U-Understand, Ap- Apply, An-Analyse, E-Evaluate and C-Create.

Categories of Knowledge

General Categories

F- Factual, C- Conceptual, P- Procedural, M-Metacognitive

Categories specific to Engineering

FDP- Fundamental DesignPrinciples, C&S-Criteria and Specifications, PS- Practical Constraints, DI-Design Instrumentalities

FDP- Fundamental DesignPrinciples, C&S-Criteria and Specifications, PS- Practical Constraints, DI-Design Instrumentalities

Step 4: Decide on Strength of CO-PO/PSO Mapping

Example (Showing only non-zero mapping entries):

CO	PO1	PO2	PO3	PO4	PI	PSO1	PSO2
CO1	3	-	-	-		1	
CO2	2	-	-	-		1	
CO3	2	-	-	-		1	
CO4	-	2	-	-		1	
CO5	-	2	-	-		1	
CO6	-	2	-			1	
Average	1.0	1.0	1.0	-		1	
Mapping Strength	1.0	1.0	1.0	-		1	

Step 5: Identify the Assessment Items/Assessment Instruments, Delivery Technologies, and Instruction types.

Cos	Assessment Items/Assessment Instruments		Delivery Technologies	Instruction types
CO1	MSE-1/ Teacher Assessment	ESE	Chalk & Board	Teaching Plan
CO2	MSE-1/ Teacher Assessment	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO3	MSE-2/Teacher Assessment	ESE	Chalk & Board PPT Presentation Video Lecture	Teaching Plan
CO4	Teacher Assessment	ESE	Chalk & Board	Teaching Plan
CO5	Teacher Assessment	ESE	Chalk & Board	Teaching Plan

Instructional System Design

CO6	Teacher Assessment	ESE	Chalk & Board PPT Presentation	Teaching Plan

Rizwan Chaudhary

AID251: Discrete Mathematics and Graph Theory **Class: SY**

Step 1: Write Course Outcomes using Revised Bloom's Taxonomy

- CO1: Use the concept of propositional logic to solve the engineering problems. (BL: Remember, Understand, Apply)
- CO2: Solve the problems on set operations, counting theory and functions (BL: Remember, Understand, Apply)
- CO3: Identify equivalence and partial order relations. (BL: Understand, Apply)
- CO4: Apply concepts of graph and trees for solving complex problems. (BL: Apply)
- CO5: Make use of algebraic properties of groups, rings and fields to solve number theoretic problems (BL: Apply)

Step 2: Locate COs in Revised Bloom-Vincenti Taxonomy Table

Locating Sample CO in Revised Bloom-Vincenti Taxonomy Table

Cognitive Processes	**Knowledge Categories**							
	Factual	Conceptual	Procedural	Meta cogniti ve	Fundament al Design Principles	Criteria & Specification s	Practical Constraints	Design instrumentaliti es
Remember	CO1	CO2						
Understand		CO1, CO2	CO3					
Apply	CO1	CO4, CO5	CO2, CO4, CO5	CO3				
Analyze								
Evaluate								
Create								

Step 3: Tag course outcomes with Program Outcomes (POs,) Program Specific Outcomes (PSOs,) Cognitive Level (CL), Knowledge Categories (KC), number of Class/Laboratory/Field sessions, and present it in the table format indicated with course Discrete Mathematics and Graph Theory - Credits: 3:1:0

	Course Outcome	**POs/ PSOs**	**CL**	**KC**	**Class Sessions**	**Tutorial (Hrs)**
CO1	Use the concept of propositional logic to solve the engineering problems. (BL: Remember, Understand, Apply)	PO1	R, U, Ap	F, C,	06	03
CO2	Solve the problems on set operations, counting theory and functions (BL: Remember, Understand, Apply)	PO1, PO2,PO3	R, U, Ap	C,P	08	03
CO3	Identify equivalence and partial order relations. (BL: Understand, Apply)	PO1, PO2	Ap	P, M	08	02

CO4	Apply concepts of graph and trees for solving complex problems. (BL: Apply)	PO1,PO2, PO3	AP	C, P	06	02
CO5	Make use of algebraic properties of groups, rings and fields to solve number theoretic problems (BL: Apply)	PO1,PO2	Ap	C, P	08	02
Total Hours of instruction					36	12

Cognitive levels

R-Remember, U-Understand, Ap- Apply, An-Analyse, E-Evaluate and C-Create.

Categories of Knowledge

General Categories

F- Factual, C- Conceptual, P- Procedural, M-Metacognitive

Categories specific to Engineering

FDP- Fundamental Design Principles, C&S-Criteria and Specifications, PS- Practical Constraints, DI- Design Instrumentalities

FDP- Fundamental Design Principles, C&S-Criteria and Specifications, PS- Practical Constraints, DI- Design Instrumentalities

Step 4: Decide on Strength of CO-PO/PSO Mapping

Example (Showing only non-zero mapping entries):

CO	PO1	PO2	PO3	PSO1	PSO2
CO1	3			2	
CO2	3	2	2	2	
CO3	3	2		2	
CO4	2	2	3	2	
CO5	3	2		1	

Step 5: Identify the Assessment Items/Assessment Instruments, Delivery Technologies, and Instruction types.

Cos	Assessment Items/Assessment Instruments		Delivery Technologies	Instruction types
CO1	CT-1/MSE/ Teacher Assessment	ESE	Chalk & Board	Teaching Plan
CO2	CT-1/ MSE/ Teacher Assessment	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO3	CT-2MSE / Teacher Assessment	ESE	Chalk & Board PPT Presentation Video Lecture	Teaching Plan
CO4	CT-2MSE / Teacher Assessment	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO5	CT-2MSE / Teacher Assessment	ESE	Chalk & Board PPT Presentation	Teaching Plan

Dr. S.A. Kinariwala

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Department of Emerging Science & Technology

Course Code: AID201 Course: **Data Structure & Algorithm** **Class: SY (AIDS)**

Autonomous

Course Outcome:- Students are able to

CO1: Describe the concepts of Data types and memory allocation. Discuss Asymptotic notations. (II. Understand)

CO2: Implement linear data structures like stack, queue. (III. Apply)

CO3: Implement operations on linked list and stack using linked list. (III. Apply)

CO4: Perform operations on tree and graph like insertion, deletion and traversal.(III. Apply)

CO5: Implement different sorting and searching algorithms. (III. Apply)

CO6: Apply algorithms for problem solving like sorting and find minimum spanning tree. (III. Apply)

CO-PO and CO-PSO mapping

CO	PO1	PO2	PO3	PO4	PO12	PSO1	PSO2
CO1	3	-	-	-	-	1	-
CO2	-	3	-	-	-	1	-
CO3	-	-	3	-	-	1	-
CO4	-	-	3	-	-	1	-
CO5	-	-	3	-	-	1	-
CO6	-	-	3	-	-	1	-
Average	1.0	1.0	2.0	-	-	1	-
Mapping Strength	1.0	1.0	2.0	-	-	1	-

Course teacher
Mr. Bharat Chaudhary

Program Coordinator
Dr. Kavita Bhosle

Instructional System Design

AID283: Human Computer Interaction **Class: SY AIDS**

Step 1: Write Course Outcomes using Revised Bloom's Taxonomy

CO1 Explain the importance of HCI study and principles of user-centered design (UCD) approach. (Understand)II
CO2: Identify design principles, models, and assessment strategies in user interface design. (II)
CO3: Describe the guidelines for user interface((Understand)II

CO4: Discover the recent trends in HCI((Apply)III

CO5: Illustrate effective user-interfaces((Apply) III
CO6: Apply cognitive models for predicting human-computer-interactions. ((Apply)II

Step 2: Locate COs in Revised Bloom-Vincenti Taxonomy Table

Locating Sample CO in Revised Bloom-Vincenti Taxonomy Table

Cognitive Processes	**Knowledge Categories**							
	Factual	Conceptual	Procedural	Meta cognitive	Fundamental Design Principles	Criteria & Specifications	Practical Constraints	Design instrumentalities
Remember								
Understand	CO1	CO2, CO3	CO2,					
Apply		CO4, CO5,CO6						
Analyze								
Evaluate								
Create								

Step 3: Tag course outcomes with Program Outcomes (POs,) Program Specific Outcomes (PSOs,) Cognitive Level (CL), Knowledge Categories (KC), number of Class/Laboratory/Field sessions, and present it in the table format indicated with sample course Machine Drawing - Credits: 3:1:0

	Course Outcome	POs/ PSOs	CL	KC	Class Sessions	Tutorial (Hrs)
CO1	Explain the importance of HCI study and principles of user-centered design (UCD) approach. (Understand)II	PO1	U	F	06	
CO2	Identify design principles, models, and assessment strategies in user interface design. (II)	PO2	U	C,P	06	
CO3	Describe the guidelines for user interface((Understand)II	PO2	U	C	06	
CO4	Discover the recent trends in HCI((Apply)II	PO2	Ap	C	06	
CO5	Illustrate effective user-interfaces((Apply) III	PO2	Ap	C,P	06	
CO6	Apply cognitive models for predicting human-computer-interactions. ((Apply)II	PO2	Ap	C	06	
Total Hours of instruction					36	0

Cognitive levels

R-Remember, U-Understand, Ap- Apply, An-Analyse, E-Evaluate and C-Create.

Categories of Knowledge

General Categories

F- Factual, C- Conceptual, P- Procedural, M-Metacognitive

Categories specific to Engineering

FDP- Fundamental DesignPrinciples, C&S-Criteria andSpecifications, PS- PracticalConstraints, DI-DesignInstrumentalities

FDP- Fundamental DesignPrinciples, C&S-Criteria andSpecifications, PS- PracticalConstraints, DI-DesignInstrumentalities

Step 4: Decide on Strength of CO-PO/PSO Mapping

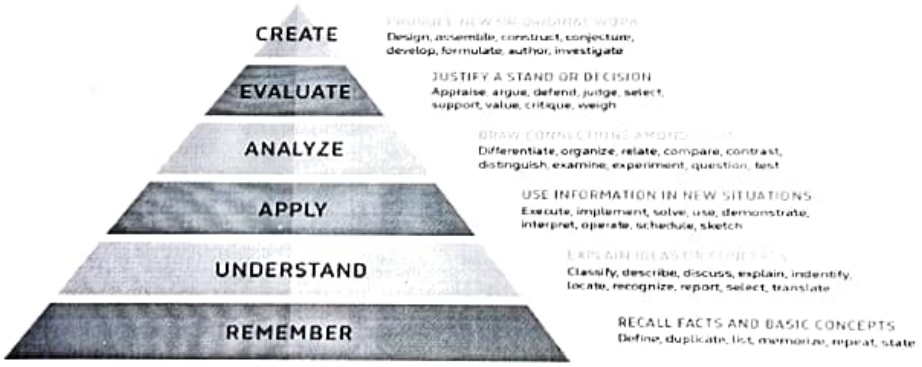
Example (Showing only non-zero mapping entries):

CO	PO1	PO2	PO5	PO6	PI	PSO1	PSO2	PSO3
CO1	2	-	-			1		
CO2	-	2	-	-		1		
CO3	-	1	-	-		1		
CO4	-	2		-		1		
CO5		2				1		
CO6		2				1		

Average	2.0	1.8	-					
Mapping Strength	2.0	2.0	-		-	1.0		

Step 5: Identify the Assessment Items/Assessment Instruments, Delivery Technologies, and Instruction types.

Cos	Assessment Items/Assessment Instruments		Delivery Technologies	Instruction types
CO1	MSE/ Assignment1	ESE	Chalk & Board/ PPT Presentation	Teaching Plan
CO2	MSE/ Assignment2/quiz	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO3	MSE/ Assignment3	ESE	Chalk & Board PPT Presentation Video Lecture	Teaching Plan
CO4	MSE/ Assignment4	ESE	Chalk & Board PPT Presentation	Teaching Plan
CO5	Presentation/	ESE	Chalk & Board	Teaching Plan
CO6	Case Study	ESE	Chalk & Board	Teaching Plan



Dipa D Dharmadhikari
Assistant Professor
ESTD

EST901: Introduction to Artificial Intelligence & Machine Learning (H/M) Class: SY

EST971: Lab: Introduction to Artificial Intelligence & Machine Learning

Step 1: Write Course Outcomes using Revised Bloom's Taxonomy

- CO1: Define AI and its techniques. (I Remember)
- CO2: Explain Logic programming and Knowledge representation. (II. Understand)
- CO3: Differentiate between various supervised and unsupervised learning techniques. (II. Understand)
- CO4: Apply mathematical fundamental concepts. (III. Apply)
- CO5: Apply Regression algorithms. (III. Apply)
- CO6: Apply the supervised and unsupervised learning algorithms. (III. Apply)

Step 2: Locate COs in Revised Bloom-Vincenti Taxonomy Table

Locating Sample CO in Revised Bloom-Vincenti Taxonomy Table

Cognitive Processes	**Knowledge Categories**							
	Factual	Conceptual	Procedural	Metacognitive	Fundamental Design Principles	Criteria & Specifications	Practical Constraints	Design instrumentalities
Remember	CO1	CO2						
Understand	CO2	CO3						
Apply		CO4,CO5, CO6	CO5, CO6					
Analyze								
Evaluate								
Create								

Step 3: Tag course outcomes with Program Outcomes (POs,) Program Specific Outcomes (PSOs,) Cognitive Level (CL), Knowledge Categories(KC),number of Class/Laboratory/Field sessions, and present it in the tableformat indicated with sample course

	Course Outcome	**POs/ PSOs**	**CL**	**KC**	**Class Sessions**	**Tutorial (Hrs)**
CO1	Define AI and its techniques.	PO1,PO2	R	F	08	00
CO2	Explain Logic programming and Knowledge representation.	PO2	U	F,C	08	00
CO3	Differentiate between various supervised and unsupervised learning techniques	PO2	U	C	08	00
CO4	Apply mathematical fundamental concepts	PO1	Ap	C	08	00
CO5	Apply Regression algorithms.	PO2	Ap	C,P	08	00

CO6	Apply the supervised and unsupervised learning algorithms.	PO2	Ap	C,P	08	
Total Hours of instruction					48	

Cognitive levels

R-Remember, U-Understand, Ap- Apply, An-Analyse, E-Evaluate and C-Create.

Categories of Knowledge

General Categories

F- Factual, C- Conceptual, P- Procedural, M-Metacognitive

Categories specific to Engineering

FDP- Fundamental Design Principles, C&S-Criteria and Specifications, PS- Practical Constraints, DI- Design Instrumentalities

FDP- Fundamental Design Principles, C&S-Criteria and specifications, PS- Practical Constraints, DI- Design Instrumentalities

Step 4: Decide on Strength of CO-PO/PSO Mapping

Example (Showing only non-zero mapping entries):

CO	PO1	PO2	PO3	PO4	PO5	PI	PSO1	PSO2
CO1	1	1	-	-	-	-	1	-
CO2	-	1	-	-	-	-	1	-
CO3	-	2	-	-	-	-	1	-
CO4	2	-	-	-	-	-	1	-
CO5	-	1	-	-	-	-	1	1
CO6	-	2	1	-	-	-	1	1
Average	1.5	1.4	1.0	-	-	-	1.0	1.0
Mapping Strength	1.0	1.0	1.0	-	-	-	1.0	1.0

Step 5: Identify the Assessment Items/Assessment Instruments, Delivery Technologies, and Instruction types.

Cos	Assessment Items/Assessment Instruments		Delivery Technologies	Instruction types
CO1	Quiz,MSE	ESE	Chalk & Board PPT Presentation Video Lecture	Teaching Plan
CO2	Practical(1),MSE	ESE, PR Exam	Chalk & Board PPT Presentation Video Lecture Demonstration	Teaching Plan,Practical Teaching Plan
CO3	MSE	ESE	Chalk & Board PPT Presentation Video Lecture	Teaching Plan
CO4	Assignment, MSE	ESE	Chalk & Board PPT Presentation Video Lecture	Teaching Plan

CO5	Practical(2,3,4)	ESE, PR Exam	Practical Session Demonstration	Practical Teaching Plan
CO6	Assignment Practical(7,8)	ESE, PR Exam	Demonstration	Practical Teaching Plan

Mrunal

Ms. Mrunal Mule

Asst. Professor ESTD

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Department of Emerging Science & Technology

Course Code: AID202 Course: **Introduction to AI** **Class: SY (AIDS) Autonomous**

Course Outcome:- Students are able to

CO1: Describe the concept of Artificial Intelligence and Intelligent Agents. (II Knowledge)

CO2: Explain the Applications of Artificial Intelligence and its Impact on society (II Understand)

CO3: Discuss the Optimal Path finding methods. (II Understand)

CO4: Apply Game-playing method for solving problems (III Apply)

CO5: Apply Constraint Satisfaction method for solving problems (III Apply)

CO6: Apply state space and Heuristic Search methods for solving problems. (III Apply)

CO-PO and CO-PSO mapping

CO	PO1	PO2	PO5	PO6	PO12	PSO1	PSO2
CO1	1	-	-	-	1	2	-
CO2	-	2	-	-	1	2	-
CO3	-	2	-	-	1	2	-
CO4	-	2	-	-	1	2	-
CO5	-	2	-	-	1	2	-
CO6	-	2	-	-	1	2	-
Average	1.0	2	-	-	1	2	-
Mapping Strength	1.0	2	-	-	1	2	-

Course teacher
Ms. Deepa Dharmadhikari

Program Coordinator
Dr. Kavita Bhosle

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Department of Emerging Science & Technology

Course Code: AID204 Course: **Microprocessors & Microcontrollers** **Class: SY (AIDS)**

Autonomous

Course Outcome:- Students are able to

CO1: Describe basic Logic gates and perform conversions among different number system. (II Knowledge)

CO2: Apply K map to simplify logical expressions and understand combinational circuit and sequential circuits. (III Application)

CO3:Illustrate basics of microprocessor and instruction set of 8086. (III Application)

CO4: Analyze difference between microprocessor 8086 and microcontroller 8051. (IV Analysis)

CO5: Examine logic gates and flipflops. (IV Analysis)

CO6: Analyze assembly language program for 8086.(IV Analysis)

CO-PO and CO-PSO mapping

CO	PO1	PO2	PO5	PO6	PO12	PSO1	PSO2
CO1	1	-	-	-	1	1	-
CO2	1	2	-	-	1	1	-
CO3	1	2	-	-	1	1	-
CO4	1	2	-	-	1	1	-
CO5	1	2	-	-	1	1	-
CO6	1	2	1	-	1	1	-
Average	1.0	2	1	-	1	1	-
Mapping Strength	1.0	2	1	-	1	1	-

Course teacher
Mr. Kiran Chaudhari

Program Coordinator
Dr. Kavita Bhosle

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Department of Emerging Science & Technology

Course Code: AID203 Course:**Object Oriented Programming** **Class: SY (AIDS)**

Autonomous

Course Outcome:- Students are able to

CO1: Explain the need & features of object oriented programming (II Understand)

CO2: Apply the syntax and semantics of java programming language.(III Apply)

CO3: Use classes, objects, members of a class, and relationships among them to solve a specific problem.(III Apply)

CO4: Write reusable programs using the concepts of inheritance, polymorphism, interfaces and packages. (III Apply)

CO5: Apply the concepts of Multi-threading, File I/O, and Exception handling. (III Apply)

CO6: Write event driven GUI programs in Java. (III Apply)

CO-PO and CO-PSO mapping

CO	PO1	PO2	PO5	PO6	PO12	PSO1	PSO2
CO1	1	-	-	-	-	1	-
CO2	1	-	-	-	-	1	-
CO3	1	1	-	-	-	1	-
CO4	1	1	-	-	-	1	-
CO5	1	1	1	-	-	1	-
CO6	1	1	2	-	-	1	-
Average	1.0	1.0	1.5	-	-	1.0	-
Mapping Strength	1.0	1.0	1.0	-	-	1.0	-

Course teacher
Ms. Mrunal Mule

Program Coordinator
Dr. Kavita Bhosle