



HINDUSTHAN INSTITUTE OF TECHNOLOGY

(An Autonomous Institution)

(Approved by AICTE, New Delhi, affiliated to Anna University, Chennai, Accredited with "A" Grade by NAAC)

Valley Campus, Pollachi Main Road, Coimbatore 641 032.



Department of Computer Science and Engineering

Flipped Classrooms with Online Resources

1. Instructional Session Details

Department: Computer Science and Engineering

Course Title: Python Programming for Data Science

Course Code: 22AD402

Academic Year: 2024–2025 (Even Semester)

Semester: IV

Unit Title: Basics of Python

Instructional Topic: Decision Constructs (if, elif and else)

Iteration Constructs (for, while and range)

ICT Tools Used: Google Classroom, Google Drive

2. Pedagogical Execution Framework

Teaching Strategy: Flipped Classroom (pre-class self-learning + in-class interaction)

Technology Platforms: Google Drive, Google Classroom

Learner Involvement: Posted questions in forums, participated in discussions and live quizzes

Instructor Role: Curated pre-recorded content, moderated discussions, clarified concepts, and coordinated expert sessions

Engagement Modality: Live synchronous sessions with real-time feedback and interaction

3. CO-PO Mapping Matrix

Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	0	3	0	0	0	0	0	2	0



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CO2	2	3	1	0	3	0	0	0	0	0	2	0
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CO-PSO Mapping Matrix

Course Outcome (CO)	PSO1	PSO2
CO1	3	0
CO2	0	2

Justification for CO-PSO Mapping

CO	PSO	Justification
CO1	PSO1	Applying decision-making constructs directly supports program-specific skills such as logic building, flow control, and structured programming required in core computing applications.
CO2	PSO2	Iteration constructs enable learners to build efficient loops and solve repetitive tasks, aligning with domain-specific applications like automation, simulations, and real-time data processing.



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Justification for CO-PO Mapping

CO	PO	Justification
CO1	PO1 (Engineering Knowledge)	Understanding and applying decision constructs enhances the foundational engineering knowledge needed to analyze and solve computing problems logically.
CO1	PO2 (Problem Analysis)	Students learn to break down problems and choose appropriate conditional logic, promoting analytical thinking.
CO1	PO3 (Design/Development of Solutions)	Enables students to design and implement simple programs that make logical decisions based on conditions.
CO2	PO1 (Engineering Knowledge)	Iteration constructs strengthen understanding of basic programming concepts and algorithmic design.
CO2	PO2 (Problem Analysis)	Students identify patterns in problems where loops are necessary and determine suitable iteration methods.
CO2	PO3 (Design/Development of Solutions)	Helps students develop structured programs involving loops to solve real-world tasks efficiently.

4. Interaction Pattern

- ✓ Students accessed digital content via Google Drive and Google Classroom.
- ✓ Peer interaction in Google Classroom forums and during live discussions.
- ✓ Real-time interaction through classroom forums.



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5. Pedagogical Evidence

The screenshot shows a Google Classroom interface. On the left, there's a sidebar with navigation links like Home, Calendar, Gemini, Teaching (with a dropdown menu), To review, and several course links. The main area displays a course titled 'II CSE A (Python Programming For Data Science)'. Under this title, there's a section for 'UNIT I Notes' by MAHESH KUMAR N B, dated Feb 3 (Edited May 5). It lists several PDF files: 'I_H&S_GE3151_PSPP_Unit-1...', 'I_H&S_GE3151_PSPP_Unit-2...', 'Python_Hnadwritten-Notes...', 'Python_for_DataScience.pdf', and 'Python Virtual Environment...'. Below this, there's a 'Class comments' section with a placeholder 'Add class comment...' and a 'Reply' button.

Screenshot of Google Classroom

Photo:

