



Yogoda Satsanga Mahavidyalaya

JAGANNATHPUR, DHURWA, RANCHI – 834004

Email address: ysmranchi4@gmail.com

(NAAC Accredited, Grade: B++, CGPA: 2.89)

COURSE PLAN

NAME OF THE DEPARTMENT: IT

NAME OF THE FACULTY: Prof. Goutam Sanyal

ACADEMIC SESSION: 2023-24

YEAR: 2024

PROGRAMME: IT

SEMESTER: IV

COURSE TYPE: SEC

COURSE NAME: MATLAB Programming

COURSE CODE: SEC2

TOTAL CREDIT: 2



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PROGRAMME OUTCOMES (PO):

PO1: Scientific & Computational Knowledge: - Apply the information on scientific & computational ideas, software engineering and innovation basics.

PO2: Problem Analysis, Design & Implementation: - Identify, formulate and analyze real world problem. Design solution for Software, Hardware & Networking problems and implementation using Software & Network tools.

PO3: Modern tool usage: - Ability to select modern computing tools, skills and techniques necessary for innovative software solutions.

PO4: Project Management: -Comprehend Software Engineering and Technology standards and apply these to prepare own project and system as a part and pioneer in a group.

PO5: Career Development & Entrepreneurship: Classify opportunities, private enterprise dream and use of original thoughts to build worth and means for the betterment of the human being and the world.

PO6: Communication: Communicate effectively on computational & information Technology activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO7: Ethics: Ability to apply and commit professional Ethics, cyber regulations & control on software piracy in a global economic environment.

PO8: Preparing students for future aspects: Building and improving their creativity, social awareness, and general knowledge.

PO9: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological changes.

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO1: An ability to apply technical comprehension in varied areas of Computer Applications and experience a conducive environment in cultivating skills for thriving career and higher studies.

PSO2: Understand the concept of Programing logic, Web designing logic, Signal processing, Image processing, Mobile Applications, Multimedia Media.

PSO3: Develop competencies in various disciplines of technologies such as Server-side Web applications, computer networking, software engineering, database concepts and programming



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COURSE OUTCOMES (COs):

CO1	Understanding MATALB programming
CO2	Understand and applying control statement
CO3	Understand and creating Graph and wave
CO4	Analyzing Waveform
CO5	Understand and Applying text file manipulation

COURSE TEACHING AND LEARNING ACTIVITIES

A. PEDAGOGY

- i. Whiteboard ✓
- ii. Flipped Class ✓
- iii. PPT ✓

B. COURSE COMPLETION PLAN

UNIT	NO. OF LECTURES		TEST	QUIZ	ASSIGNMENT
	THEORY	PRACTICAL/TUTORIAL			
1	2	2	2		1
2	3	2			1
3	3	4			4
4	2	3			1
5	2	2			1
6	3	2			1

A. COURSE DELIVERY PLAN:

UNIT	TOPIC/SUBTOPIC	LECTURE REQUIRED	CO ADDRESSED	ASSIGNMENT/ TEST/QUIZ
1	Introduction to Programming: Components of a computer, working with numbers, Machine code, Software hierarchy	2	1	1



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2	Programming Environment: MATLAB Windows, A First Program, Expressions, Constants, Variables and assignment statement, Arrays.	3	1	1
3	Graph Plots: Basic plotting, Built in functions, Generating waveforms, Sound replay, load and save.	3	3,4	4
4	Procedures and Functions: Arguments and return values, M-files, Formatted console input- output, String handling	2	1,2	1
5	Control Statements: Conditional statements: If, Else, Else-if, Repetition statements: While, for loop.	2	2	1
6	Manipulating Text: Writing to a text file, Reading from a text file, Randomising and sorting a list, searching a list.	3	5	1

B. COURSE OUTCOME ASSESSMENT PLAN

a. DIRECT ASSESSMENT

(Please tick the appropriate column)

COURSE OUTCOME	ASSESSMENT			REMARKS
	QUIZ	TEST	MID SEMESTER	
CO1	MATLAB Programming Basic	√	√	
CO2	Solution of equation	√	√	
CO3	Graph Plot	√	√	
CO4	Waveform	√	√	
CO5	Text Manipulation	√	√	



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b. INDIRECT ASSESSMENT (STUDENT SURVEY)

Rate the following aspects of course outcomes. Use the scale 1-3

S. No	Course Outcome	1	2	3
1.	CO1	√		
2.	CO2	√		
3.	CO3			√
4.	CO4			√
5.	CO5		√	

1. Average
2. Good
3. Very Good

C. SUGGESTED READINGS

a. TEXT BOOKS

MATLAB Programming By Rudra Pratap

b. REFERENCE BOOKS

MATLAB: An Introduction with Applications, by Amos Gilat, 2nd edition, Wiley, 2004,
C.B. Moler, Numerical Computing with MATLAB, SIAM, 2004.

c. VIDEO RESOURCE :

1. Scientific Computing using Matlab : IIT Delhi
<https://www.youtube.com/playlist?list=PLp6ek2hDcoNAyv2A1y628-9fzXq6pXuf>
2. Matlab programming for numerical computation : NPTEL
https://www.youtube.com/playlist?list=PLRWKj4sFG7-Xr9yqg6SMr_F80KdFVhN

d. WEB RESOURCES:

Matlab Official Website : <https://in.mathworks.com/products/matlab.html>

e. E-RESOURCES: Tutorial Point