

## INSTITUTE OF HIGHER EDUCATION AND RESEARCH



(Declared as Deemed - to - be - University under section 3 of UGC Act 1956

### BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Ref: BIHER/BIST/Civil//Spl/2021

Date: 05/06/2021

### CIRCULAR

Many a times, the defined skill sets that are being imparted to students today with Programme Specific Objectives in educational institutions become redundant sooner than later due to rapid technological advancements. It is important for higher education institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes.

Hence a Value Added Course is offered by Department of School of Civil and Infrastructure Engineering. Bharath Institute of Higher Education & Research. The course offered is Certification Course on MAT lab Programming skills with the duration of 30 hours (Two hour per day) and commences from 13/06/2021 to 03/07/2021(online).

Eligibility: Course is open for UG Students for Department School of Civil and Infrastructure Engineering.

### Registration:

The registration form which is available in the university website should be duly filled by the participants and to be submitted to the Coordinator at least 5 days before the commencement of course.

### Contact:

Ms.R.Chitra

Assistant Professor / School of Civil and Infrastructure Engineering.,

Course Coordinator

Bharath Institute of Higher Education & Research.

Email id: chitra.civil@bharathuniv.ac.in

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# SCHOOL OF CIVIL & INFRASTRUCTURE ENGINEERING VALUE ADDED COURSE - CERTIFICATION COURSE ON MAT LAB PROGRAMMING SKILLS

### STUDENTS NAME LIST

SI.NO Reg No		Name of the students	E-Mail ID	
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Topic: Certification Course on MAT lab Programming skills

Type of Course: value added course / UG

Department of school of Civil and infrastructure Engineering

Pre-Requisites: Building Materials

Course Duration: 30 hours (13th June '2021)

Intended Audience: Civil Engineering Students

Industries Applicable To: All companies that deal with the civil infrastructure development

Coordinators: Ms.R.Chitra

### Objective:

1. Find Roots of non-linear equations by Bisection method and Newton's method.

- 2. Do curve fitting by least square approximations.
- Solve the system of Linear Equations using Gauss Elimination/ Gauss Seidal Iteration/ Gauss Jorden Method.
- 4) To Integrate Numerically Using Trapezoidal and Simpson's Rules
- 5) To Find Numerical Solution of Ordinary Differential Equations by Euler's Method, Runge-KuttaMethod.
- 6) To create the awareness and comprehensive knowledge in numerical solutions

### COURSE OUTLINE:

This course teaches computer programming to those with little to no previous experience. It uses the programming system and language called MATLAB to do so because it is easy to learn, versatile and very useful for engineers and other professionals. MATLAB is a special-purpose language that is an excellent choice for writing moderate-size programs that solve problems involving the manipulation of numbers. The design of the language makes it possible to write a powerful program in a few lines. The problems may be relatively complex, while the MATLAB programs that solve them are relatively simple: relative that is, to the equivalent program written in a general-purpose language, such as C++ or Java. As a sesult, MATLAB is being used in a wide variety of domains from the natural sciences, through all disciplines of engineering, to finance, and beyond, and it is heavily used in industry. Hence, a solid background in MATLAB is an indispensable skill in today's job market.

Nevertheless, this course is not a MATLAB tutorial. It is an introductory programming course that uses MATLAB to illustrate general concepts in computer science and programming. Students who successfully complete this course will become familiar with general concepts in computer science, gain an understanding of the general concepts of programming, and obtain a solid foundation in the use of MATLAB. Students taking the course will get a MATLAB Online license free of charge for the duration of the course. The students are encouraged to consult the eBook that this course is based on. More information about these resources can be found on the Resources menu on the right.

### Value Added Course

### Certification Course on MAT lab Programming skills

### Content of Syllabus

S.No.	Syllabus Details	No. of Lecture hrs	Time	Date	Lecture name
I	Find the Roots of Non-Linear Equation Using Bisection Method	2	10.45 am to 12.45am	13.06.21	Ms.R.Chitra
2	Find the Roots of Non- Linear Equation Using Newton's Method	2	02.00 pm to 04.00 pm	14.06.21	Ms.R.Chitra
3	Curve Fitting by Least Square	2	10.45 am to 12.45am	15.06.21	Ms.R.Chitra
4	Approximations solutions	2	02.00 pm to 04.00 pm	16.06.21	Ms.R.Chitra
5	Solve the System of Linear Equations Using Gauss	2	10.45 am to 12.45am	19.06.21	Ms.R.Chitra
6	Seidal Iteration Method.	2	02.00 pm to 04.00 pm	20.06.21	Ms.R.Chitra
7	Solve the System of Linear Equations Using Gauss	2	10.45 am to 12.45am	21.06.21	Ms.R.Chitra
8	Jorden Method.	2	02.00 pm to 04.00 pm	22.06.21	Ms.R.Chitra
9	Integrate numerically using Trapezoidal	2	10.45 am to 12.45am	23.06.21	Ms.R.Chitra
10	Rule. Integrate numerically using Simpson's Rules	2	02.00 pm to 04.00 pm	26.06.21	Ms.R.Chitra
11	Numerical Solution of Ordinary Differential Equations By Euler's Method.	2	10.45 am to 12.45am	27.06.21	Ms.R.Chitra
12	Numerical Solution of Ordinary Differential Equations ByRunge	2	02.00 pm to 04.00 pm	28.06.21	Ms.R.Chitra
13	Kutta Method.	2	10.45 am to 12.45am	29.06.21	Ms.R.Chitra
14	Partial Differential Equations	2	02.00 pm to 04.00 pm	30.06.21	Ms.R.Chitra
15	The Weak and Strong Formulation	2	10.45 am to 12.45am	3.07.21	Ms.R.Chitra

HOD

Head of the Dept. (Civil Engineering)
Sharath Institute of Higher Education & Research.
Sciarya, Chemnai - 606 073.



# BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

# CERTIFICATE OF PARTICIPATION

This is to Certify that ARUN YOMESO	from Bharath Institute of Higher Education and
Research, has participated in value added	Research, has participated in value added course on 'Certification Course of MAT Lab
Programming Skills ' presented by Tm	Programming Skills 'presented by Tmt.R.Chitra, Assistant Professor, Organized by
School of Civil & Infrastructure Engineeri	School of Civil & Infrastructure Engineering, BIHER from 13.06.2021 To 03.07.2021.

Coordinator

Bearath Institute of Higher Concation & Reserved 1973.

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### VALUE ADDED COURSE

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Event Name:

MATLAB programming skells

Event Venue: Date:

13/6/2021 to 3/7/2021

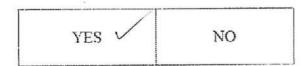
Name of participant: KAPOOR. M

1. How useful did you think this event was for you?

(Please circle the appropriate number where 1 = not at all useful and 5 = extremelyuscful)

	1	2	3	4	5
1		i l			1

2. Value added course is useful and well organized.



3. Did you receive all the information you required at this Venue?

	2000	
YES	NO	

4. Would you like to attend any further Training Courses VAC

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YES 🗸	NO
4	