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#### Report on Add-on course "Visualizing Mathematics via Mathematica and MATLAB" organised by Department of Mathematics, Goalpara College From 24<sup>th</sup> December 2021 to 31<sup>st</sup> December 2021 Brief Report

The Department of Mathematics, Goalpara College, conducted an Add-on course "Visualizing Mathematics via Mathematica and MATLAB" from 24<sup>th</sup> December 2021 to 31<sup>st</sup> December 2021. 54 students participated in the 6-day course.

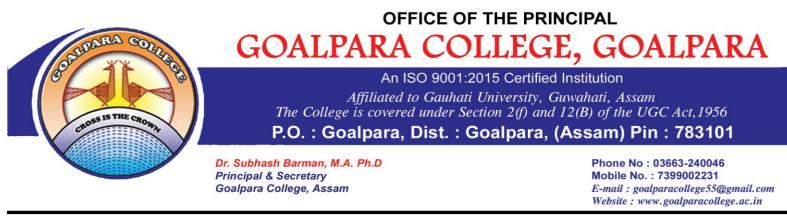
#### **Course Objectives**

The application of MATLAB & Mathematica play an important role in solving problems encountered in various fields of science and engineering. Efficient tools and techniques from MATLAB & Mathematica are helpful in solving real-life problems. This short-term course will introduce participants to the concepts, methods, and tools for solving real mathematical models. This certificate course will cover the full spectrum of various numerical aspects. We shall also discuss how one can explore MATLAB & Mathematica Softwares in Applied Mechanical problems.

#### **Course Progression layout and outcome**

Day 1: The program was inaugurated on 24<sup>th</sup> December at 10 am by Dr. Dulal Borah, IQAC Co-ordinator, Goalpara College. Dr. Manjit Borah, Assistant Professor, Department of Physics, Goalpara College delivered a special talk on Mathematica. Mr. Rajib Sarma, Assistant Professor, Department of Computer Science, Goalpara College gave a special talk on MATLAB. The inaugural program was attended by Mr. Pradip Kumar Seal, Retired Professor, Department of Mathematics, Goalpara College, Mr. Kabindra Goswami, Assistant Professor, Department of Mathematics, Goalpara College, Ms. Binandita Barman, Assistant Professor, Department of Mathematics, Goalpara College, Dr. Bijoy Kumar Sah, Assistant Professor, Department of Physics, Goalpara College and all the participating students. The inauguration program ended at 12 noon. In the second half, Mr. Kabindra Goswami started the technical session from 1 pm to 2 pm with his talk on "Basic introduction to Mathematica-I" and Miss Binandita Barman delivered a talk from 2 pm-3 pm on the topic "Basic Introduction to MATLAB-I".

Day 2: On the second day of the program, Ms. Binandita Barman started the technical session from 10 am and delivered 1.5 hour lecture on the topic "Basic Introduction to MATLAB-II". The session was followed by a tea break. The first session was followed by hands-on training session from 11:30am to 12:15 pm, which led the participants to access the



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MATLAB software. After a lunch break, second technical session was from 12:45 pm-2:15pm and Mr. Kabindra Goswami gave a lecture on the topic "Basic Introduction to MATHEMATICA-II". Hands-on training session was conducted for the participants from 2:15pm to 3pm to access Mathematica software.

Day 3: On the third day of the course, Mr. Kabindra Goswami started the session at 10 am with a lecture on "Visualizing and Analyzing functions in Mathematica". The lecture was followed by a hands-on training session from 11:30 am to 12:15pm. The second session started at 12:45pm and was lectured by Ms. Binandita Barman on the topic "Visualizing and Analyzing functions in MATLAB". Similar hands-on training session was followed from 2:15pm to 3pm after the lecture.

Day 4: On the fourth day, the first session was taken by Mr. Kabindra Goswami on the topic "Linear Algebra through MATHEMATICA" from 10am to 12 noon. The second session was taken by special guest Dr. Deepak Sarma, Assistant Professor, Department of Agricultural Statistics, Assam Agricultural University, on the topic "Linear Algebra through MATLAB-I" via online mode from 12:15 pm -2:15pm. Hands-on training was followed after the lecture from 2:15 pm to 3pm.

Day 5: On the fifth day, Dr. Deepak Sarman delivered a lecture on "Linear Algebra through MATLAB-II" via online mode from 10am-12:15pm. The second session was taken by Ms. Binandita Barman on the topic "Introduction to Differential Equation solving in MATLAB".

Day 6: On the last day of the program, special guest Mr. Bhagya Jyoti Nath, Assistant Professor, Department of Mathematics, Barnagar College, delivered a lecture on "Solving differential equations using Mathematica" via online mode from 10am-12:15pm. The Valedictory program started at 12:30pm and was attended by Dr. Subhas Barman, Principal, Goalpara College, Dr. Rubul Amin, Associate Professor, Department of Mathematics, West Goalpara College, Dr. S.K. Mishra, Associate Professor, Department of English, Goalpara College, Mr. A. Hussain, Associate Professor, Department of English, Goalpara College, Mr. A. Hussain, Associate Professor, Department of Economics, Goalpara College, Mr. Pradip Kumar Seal, Mr. Kabindra Goswami, Ms. Binandita Barman, and all the participants. The motivational speech by Dr. Subhas Barman was followed by Dr. Rubul Amin who gave a special talk on "Importance of software in understanding mathematics". Finally, certificates were distributed to students after successful completion of the course.



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Phone No : 03663-240046 Mobile No. : 7399002231 E-mail : goalparacollege55@gmail.com Website : www.goalparacollege.ac.in

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Course Schedule		
Day	Time	Event
24-12-2021	10 am -12 noon	<b>Inauguration</b> Inaugurator: Dr. Dulal Barooah, IQAC Co-ordinator, Goalpara College, Goalpara.
		Special Talk on MATHEMATICA by Dr. Manjit Borah, Assistant Professor, Department of Physics, Goalpara College.
		Special Talk on MATLAB by Mr. Rajib Sarma, Assistant Professor, Department of Computer Science, Goalpara College
	12 noon – 1pm	Tea break
	1 pm – 2pm	Basic Introduction to MATHEMATICA-I by Mr. Kabindra Goswami, Assistant Professor, Department of Mathematics, Goalpara College
	2 pm – 3 pm	Basic Introduction to MATLAB-I byMissBinandita Barman, Assistant Professor, Department of Mathematics, Goalpara College
27-12-2021	10 am -12:15 pm	Basic Introduction to MATLAB-II byMissBinandita Barman and Hands-on training of MATLAB
	12:15 pm – 12:45 pm	Tea break
	12:45 pm - 3 pm	Basic Introduction to MATHEMATICA-I by Mr. Kabindra Goswami and hands-on training on Mathematica
28-12-2021	10 am -12:15 pm	Visualizing and Analysing functions in MATHEMATICA by Mr. Kabindra Goswami and hands-on training on Mathematica
	12:15 pm – 12: 45 pm	Tea break
	12:45 pm - 3 pm	Visualizing and Analysing functions in MATLAB by Miss Binandita Barman and Hands-on training of MATLAB
29-12-2021	10 am -12 noon	Linear Algebra through MATHEMATICA by Mr. Kabindra Goswami
	12 noon – 12:15 pm	Tea break



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	12:15 pm – 2:15 pm	Linear Algebra through MATLAB-I by Dr. Deepak Sarma, Assistant Professor, Department of Agricultural Statistics, Assam Agricultural University, Jorhat
	2:15 pm - 3 pm	Hands-on training of MATLAB
30-12-2021	10 am -12:15 pm	Linear Algebra through MATLAB-II by Dr. Deepak Sarma
	12:15 pm – 12:45 pm	Tea break
	12:45 pm - 3 pm	Introduction to Differential equation solving in MATLAB by Miss Binandita Barman
31-12-2021	10 am -12:15 pm	Solving Differential equation using MATHEMATICA by Mr. Bhagya Jyoti Nath, Assistant Professor, Department of Mathematics, Barnagar College, Sorbhog
	12 : 30 pm – 3 pm	Valedictory Session



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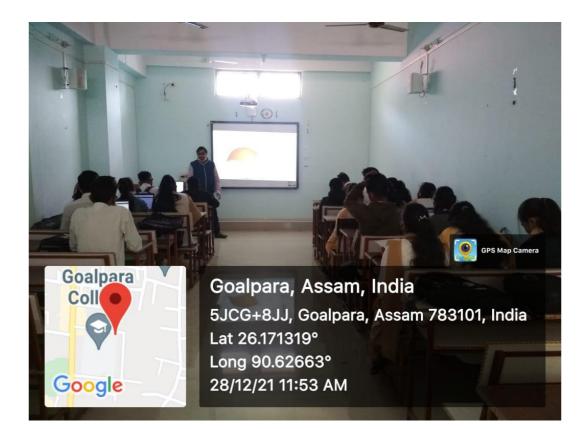
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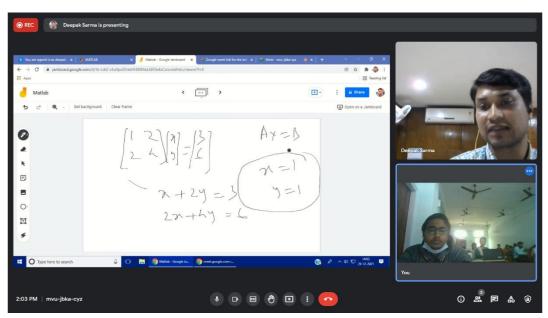
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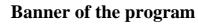
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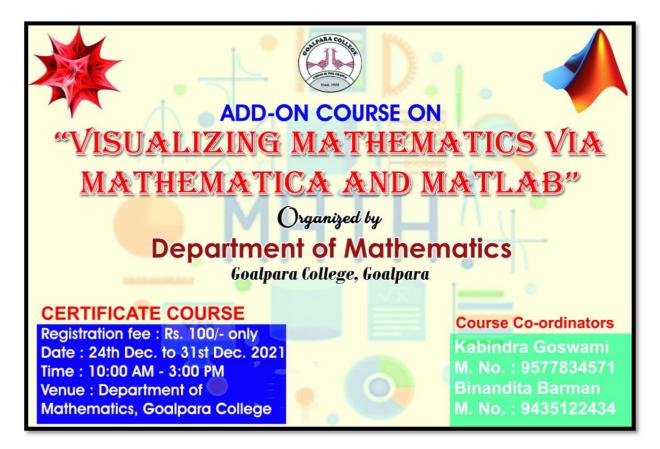
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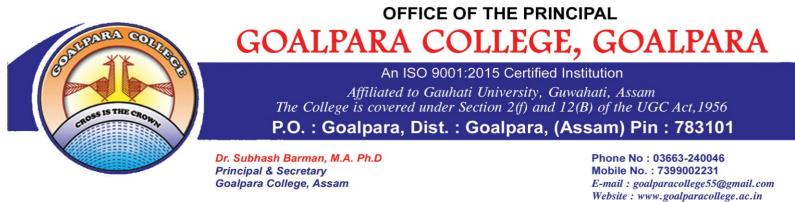
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#### **Certificate of the Course**

