

CONTACT

Director

Directorate of Continuing Education (DCE)

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About DCE

DCE established in **1995 at BUET**, a platform for decentralized and adaptive learning to bridge the gap between Professionals and Academicians, promotes pedagogical development with a combined experience of Academicians and Professionals and offers distance training opportunities. So far, **210** short courses/training workshops have been offered to serve more than **11,000** professionals.

December

S	M	T	W	T	F	S
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
						31

Short Course Outcomes

At the end of this course, participants are expected to

- Proficiency in using COMSOL Multiphysics software for simulations.
- software applies to various engineering disciplines.
- Hands-on experience with engineering analysis and simulation.
- Preparedness for participation in research projects involving COMSOL Multiphysics.
- Development of critical thinking and analytical skills.
- Ability to apply COMSOL Multiphysics to real-world projects and challenges.

RESOURCE PERSON

Professor Dr. Sumon Saha

Department of Mechanical Engineering, BUET.

DURATION

15 & 22 December 2023 (2 days)

LANGUAGE

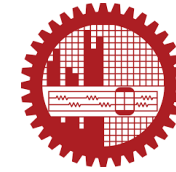
English and Bangla

CERTIFICATE

A certificate of attendance will be provided.

Short Course On

COMSOL Multiphysics Simulation of Thermofluidic Problems (Basic Level)



15 & 22 December 2023

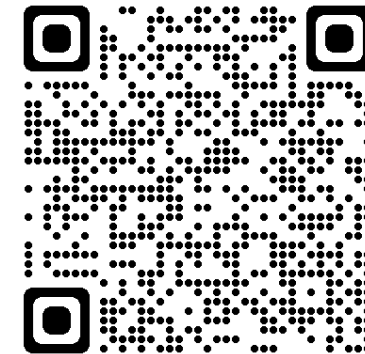
BUET, Dhaka

Organized by

Directorate of Continuing Education (DCE)

**Bangladesh University of Engineering and Technology
Dhaka-1000**

For registration and Details Please Scan
<https://forms.gle/ZmBH4MuRcA67n7yZ6>



Finite Element Method (FEM) is a cornerstone of modern engineering practice, enabling the simulation and analysis of complex systems across diverse fields, from structural mechanics to fluid dynamics and heat transfer. This hands-on training in COMSOL Multiphysics simulation is essential for acquiring the necessary skills and knowledge to effectively utilize FEM for modeling, simulation, and design optimization. This course will empower one to tackle real-world engineering challenges with confidence, fostering problem-solving abilities and a deep understanding of mathematical principles applied in practice. Moreover, proficiency in COMSOL Multiphysics software aligns with industry demands, enhancing our graduates' employability and research and collaboration opportunities within the engineering and scientific communities. By offering this course, we ensure our participants are well-prepared for the interdisciplinary, simulation-driven landscape of 21st-century engineering.

Join the official short course on COMSOL Multiphysics Simulation of Thermofluidic Problems (Basic Level), presented by DCE, BUET. Don't miss this invaluable learning opportunity. Register now!

WHO SHOULD ATTEND?

This short course is suitable for:

- Undergraduate and Postgraduate Students
- Engineering Enthusiasts
- Aspiring Researchers, Young Faculties
- Professionals Seeking Skill Enhancement
- Mathematician, Cross-Disciplinary Learners
- Anyone Interested in Engineering Simulation

PROGRAM OVERVIEW

Contents of the Short Course are:

- Introduction to Computational Heat Transfer
- Mathematical Modeling & Dimensional Analysis
- Introduction to COMSOL Multiphysics and Solving Benchmark Problem
- Training on Validation, Visualization and Post Processing
- Common Natural, Forced and Mixed Convection Problems inside Cavities
- COMSOL Multiphysics Simulation of Forced Convection Inside a Vented Cavity
- COMSOL Multiphysics Simulation of Mixed Convection Inside a Lid-Driven Cavity
- COMSOL Multiphysics Simulation of Natural Convection Inside an Irregular Cavity

VENUE

Directorate of Continuing Education (DCE), 3rd Floor, Institute Building, BUET, Polashi, Dhaka-1000. (Near **Dr. M A Rashid Student Hall, BUET and BUET Gymnasium**)

REGISTRATION FEE

BDT **5,000/-** per Person (Tk. Five Thousand Only)

PAYMENT PROCEDURE

Registration Fee is to be paid in advance payable through bank transfer/electronically deposited at -

Savings Account No. - **4404034173888**
Routing Number - **200270522**
Account Name: - Director, Directorate of Continuing Education (DCE)
Bank Name -Sonal Bank Ltd., BUET Branch, Dhaka.

REGISTRATION FORM

Short Course On COMSOL Multiphysics Simulation of Thermofluidic Problems (Basic Level) DCE, BUET

Please complete the registration form in BLOCK LETTERS and return it to the address overleaf.

Name:

Affiliation:

Company Name:

Address:

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Cell Phone:

Email:

Payment:

- Pay Order/ Demand Draft (DD)
- Online Banking

Please attach the original copy of the payment.

Details of Pay Oder/Demand Draft:

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Signature:

Date:



Short Course on
COMSOL Multiphysics Simulation of Thermofluidic Problems (Basic Level)

Venue: Lecture room, DCE, 3rd Floor, Institute Building, BUET

PROGRAM SCHEDULE

Day	Time	Topics
Day 01 15 December 2023 Friday	8:00 AM- 8:15 AM	Registration
	Module 1: Computational Heat Transfer and Mathematical Modeling	
	8:15 AM-9:15 AM	1.1 Introduction to Computational Heat Transfer and its Modern Trends
	9:15 AM-9:30 AM	Tea Break
	9:30 AM-11:30 AM	1.2 Modeling and Dimensional Analysis of Thermofluidic Problems
	Module 2: Hands-on COMSOL Multiphysics Simulation	
	11.30 AM-12.30 PM	2.1. COMSOL Multiphysics Simulation, Meshing and Solving Benchmark Problem
	12.30 PM-2:30 PM	Lunch and Prayer Break
	2:30 PM-3:30 PM	2.2. COMSOL Multiphysics Simulation (Dimensional vs Non-dimensional Simulation)
3:30 PM-4:30 PM	2.3. Hands-on Training Using COMSOL Multiphysics (Validation and Post Processing) - I	
Day 02 22 December 2023 Friday	Module 3: Simulation of Basic Thermofluidic Problems	
	8.15 AM- 9.15 AM	3.1. Hands-on Training Using COMSOL Multiphysics (Validation and Post Processing) - II
	9.15 AM-9.30 AM	Tea Break
	9:30 AM-10:30 AM	3.2. Common Natural, Forced, and Mixed Convection Problems Inside Cavities
	10.30 AM- 11.30 AM	3.3. Simulation of Forced Convection Inside a Vented Cavity
	11.30 AM-12.30 PM	3.4. Simulation of Mixed Convection Inside a Lid-Driven Cavity
	12.30 PM-2:30 PM	Lunch and Prayer Break
	2:30 PM-3:30 PM	3.5. Simulation of Natural Convection Inside an Irregular Cavity
	3:30 PM-4:30 PM	3.6. Simulation of MHD Convection with Heat Generation and Joule Heating
	4.30 PM-5:30 PM	Tea and Prayer Break
5:30 PM~	Closing Ceremony and Certificate Distribution	