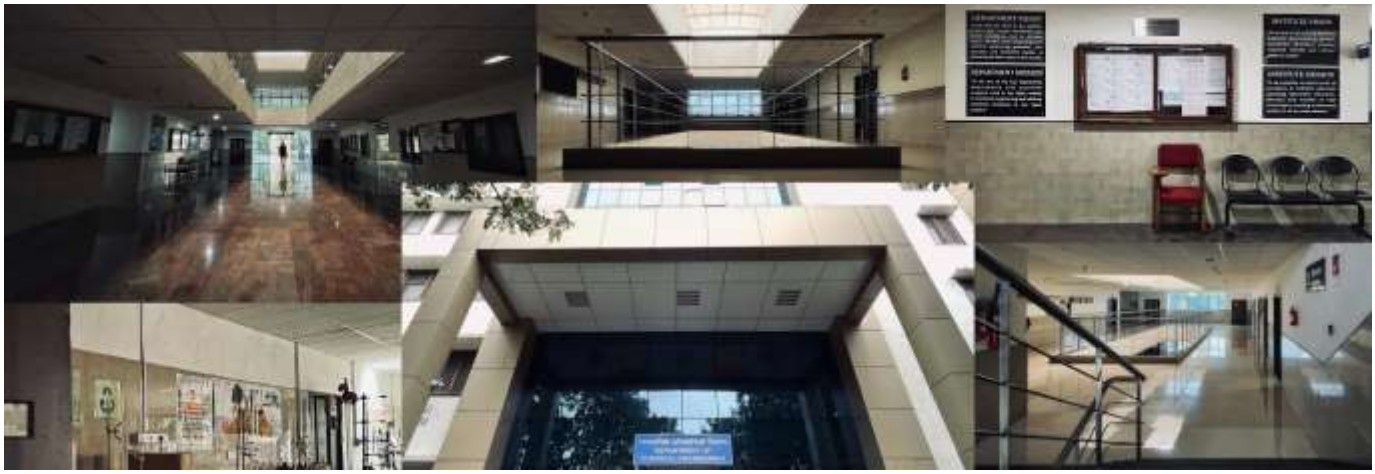
Short Term Course

on

Design of Experiments

17/02/2024 – 17/03/2024



:: Organized by ::
Department of Chemical Engineering
Sardar Vallabhbhai National Institute of Technology (SVNIT),
Surat-395007 (GUJARAT)

In Collaboration with

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INTRODUCTION

Design of Experiments (DOE) deals with planning, conducting the experiments, and then analyzing and interpreting the response to evaluate the factors' effect in order to control the value of a parameter or group of parameters. A strategically planned and executed experiment may provide a great deal of information about the effect on a response variable due to one or more factors. DOE simply helps to pin point the sensitive parts and sensitive areas in designs that cause problems to response variables. Designers are then able to fix these problems and produce robust and improved responses prior to going into production. Also, DOE is widely employed methodology across diverse industries such as chemical, biotechnology, mechanical/industrial, civil and pharmaceuticals, etc. aiming to systematically enhance processes, products, and overall outcomes.

Taguchi and Response surface methodologies are based on performing evaluation or experiments to test the sensitivity of a set of response variables to a set of control parameters (or independent variables) with an aim to attain the optimum setting of the control parameters. They are the highly utilized and well defined techniques for the optimization of process parameters. Moreover, Placket-Burman design (PBD) and Definitive screening (DS) provide initial information about the parameters.

In this course, lectures will be delivered on the basic principles of statistics, Design of Experiments, Taguchi method, RSM and other optimization/screening tools. Also, a hands-on exposure to JMP software will be given to enhance the learning covering the aspects of DOE and Monte-Carlo simulation. Research-based and Industry-specific case studies will be discussed during the course.

Primary objective of the course is to guide participants through the intricacies of experiment design, analysis, and optimization stages, ensuring a thorough and hands-on exploration of the DOE framework. After the completion of the course, participants will be able to

- Understand the importance of the Taguchi Method and Response Surface Methodology (RSM) in research as well as in industry
- Apply Taguchi, RSM, PBD, DS, etc. in the field of interest.
- Utilize JMP software in their field.

At the end of the program, participants will emerge with a heightened proficiency in utilizing DOE methodologies and the JMP software, empowering them to make informed decisions and drive continuous improvement in their work environments.

FACULTY

The eminent speakers from NITs and professionals from JMP (Dr. Muralidhara A.)

ELIGIBILITY

Faculty members, UG, PG and PhD scholars are eligible to attend the course. Industrial personnel can also attend the course.

DURATION

The course will be of 10 days and will be conducted during Weekends. Tentative timings would be from 10 am to 1 pm and 3 pm to 5 pm.

ABOUT THE INSTITUTE

The institute was established in 1961 as a Regional Engineering College and was given a Deemed University status on 4th October 2002 as a National Institute of Technology with the objective to provide high quality technical education to meet the needs of the Nation in the present competitive world. At present, the Institute is offering 7 UG, 21 PG Programmes in various disciplines of Technology, and three 5 Year Integrated M.Sc. Programmes and dual degree B.Tech. + MBA Programme. The Institute also offers Ph.D. Programmes in all disciplines of Engineering and Applied Sciences. Institute receives research project grants from MHRD, DST, CSIR, GUJCOST, BRNS, etc. SVNIT has an excellent placement record with a number of top ranking companies visiting the campus every year.

ABOUT THE DEPARTMENT

Established in 1995, the Department of Chemical Engineering, SVNIT, offers programmes leading to Bachelor's, Master's and Ph.D. Degree in Chemical Engineering. Currently, the Department has 19 faculty members with expertise in various domains of chemical engineering. The department actively conducts FDP, STTP, and workshops for students, faculty and industry personnel. The department has built a comprehensive research infrastructure with top-notch facilities for carrying cutting-edge research. The department strives to provide conducive environment for creative and dynamic research work. The faculty members are granted several R&D projects from organizations like GUJCOST, DST, DBT, etc. and have high quality research publications and patents. Please visit https://www.svnit.ac.in/web/department/chemical/ for more details.

ABOUT JMP

Since 1989, JMP, (wholly owned subsidiary of SAS) has been transforming data analytics through its interactive visualization and robust statistics, leading to insight-driven advancements. Scientists and engineers' harness JMP to propel green-energy breakthroughs, expedite cancer therapies, and build high-tech space probes. J-M-P, pronounced 'jump,' embodies a leap in innovation and interactivity.

For more than 30 years now, JMP R&D, making each version of JMP more visual, more interactive, and more practical to help users understand their data. JMP statistical software is designed for scientists and engineers and used worldwide in nearly every industry.

JMP is a versatile desktop based software with a user-friendly interface, excelling in statistical analysis, data visualization, design of experiments, multivariate analysis, quality & Six Sigma, Reliability and predictive modeling/Machine learning. To know more visit www.jmp.com

COURSE FEE

Rs. 5000/- + GST for students (UG/PG/PhD)
Rs. 8000/- + GST for faculty members
Rs. 10000/- + GST for industry personnel

The registration fee is non-refundable and should be paid online to the following account.
Account Name: Director, SVNIT-CCE
Account Number: 37030749143
Bank: State Bank of India (SVRCET Branch, Surat)
IFSC code: SBIN0003320

The course fee does not include lunch/dinner. However, tea will be provided to the participants during the sessions.

On successful completion of the course, participants will be awarded certificate of completion.

No TA-DA will be paid to any participants.

Numbers of participants are limited to 50.

Application (can be downloaded from the website: www.svnit.ac.in) in the prescribed format duly sponsored by the Head of the Institution/Department should reach the Coordinator on or before 10/02/2024 by post or email (scanned copy).

IMPORTANT DATES

Last date of registration: **10/02/2024**
Date of intimation: **11/02/2024**

COORDINATORS

Dr. Meghal A. Desai
Dr. Sanjaykumar R. Patel
Dr. Girirajsinh C. Jadeja
Dr. Jigisha K. Parikh

MAILING ADDRESS

Coordinator-DOE
Department Chemical Engineering,
S.V. National Institute of Technology,
Surat-395007 (Gujarat),
Phone: 0261-2201642, 2201649, 2201657
Email: doeann.svnit.surat@gmail.com

Registration Form

on

Design of Experiments

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Name	:
Gender	:
Designation	:
Institution	:
Address for correspondence	:
Phone (O) (M)	: :
Fax	:
Email Qualification	: :
Payment details Amount Transaction Date Bank name Transaction number Proof of transaction	:
Date	Necessary approval from the competent authority has been sought for attending the course Signature of Applicant

Or

Fill the Registration Form by clicking the following link.

https://forms.gle/UWGgFRv2yNQ2e7VK8