

## ABOUT COURSE

### What is this workshop about?

3D Printing is an Additive Manufacturing technique that creates a physical object from a virtual 3D CAD model by depositing successive layers of material. They work like the traditional inkjet printers, but instead of ink, a 3D printer deposits desired material to manufacture an object from its digital format. 3D printing and rapid prototyping, in general, are widely claimed to have revolutionized not only the manufacturing industry but also many other walks of life like medicine, aerospace and automotive industry. This program on 3D Printing helps the participants understand the design, functioning and operation of a basic 3D Printer.

## COURSE CONTENTS

- Introduction to 3D printing
- Additive Manufacturing Process Chain
- Design of Additive Manufacturing Processes
- Synthesis of Additive manufacturing Processes
- Characterization of Additive Manufacturing Processes
- Challenges in 3D micro-printing techniques
- Applications of 3D printing

## COURSE OUTCOMES

- Learn about the materials, working with 3D printer, and designing CAD models
- Understand how to calibrate and build 3D printer
- Understand the G code generation

## REGISTRATION PROCESS

- One can register for the course as per the specified process of AICTE Training and Learning (ATAL) Academy.
- Visit <https://www.aicte-india.org/atal> for registration
- For certificate, attendance and passing of Examination is mandatory.

## RESOURCE PERSONS

The program will be conducted by eminent speakers from academia and industry.

## COURSE SCHEDULE

Duration : 20<sup>th</sup> – 24<sup>th</sup> December 2021  
Timing : 10 am to 5 pm

## WHO SHOULD ATTEND THE COURSE

This course is useful for engineers of different disciplines aspiring towards development of 3D printers for various applications ranging from automobile, biomedical etc. The course will be most beneficial for:

- Engineering post-graduates (M.E./M. Tech. in Mechanical, Production, Automobile, Aerospace, Bio-medical, Electrical, Electronics, Chemical Engineering)
- Professionals in Design, Manufacturing industry
- Faculty members from academic and research institutions
- PhD scholars

All India Council for Technical Education  
(AICTE) Training and Learning (ATAL)  
Academy

Sponsored one week online  
Faculty Development Program  
On

“3D PRINTING AND DESIGN”

20<sup>th</sup> - 24<sup>th</sup> December 2021



**Coordinator**  
**Dr. Kiran S. Bhole**  
Associate Professor

**Mechanical Engineering Department**

**Organized By**  
**Mechanical Engineering Department**  
**Bharatiya Vidya Bhavan's**  
**Sardar Patel College of Engineering**

(An autonomous institution affiliated to University of Mumbai )

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## ABOUT THE INSTITUTE



Sardar Patel College of Engineering (SPCE) under the management of the Bhartiya Vidya Bhavan, was founded by Kulapati Dr. K. M. Munshi. It was established to meet the growing demand for engineering talent.

The foundation stone of the college was laid on 17th September 1961 by Shri. Y. B. Chavan (the then Chief Minister of Maharashtra who later became the Defence Minister of India.)

The college was inaugurated by the first Prime Minister of Independent India, Pandit Jawaharlal Nehru in 1962. The college is dedicated to Sardar Vallabhbhai Patel, an eminent nation builder of independent India.

The college is autonomous and affiliated to the University of Mumbai for the full-time degree, post graduate, and research programs. The institute has set high standards for aspiring engineering students and also meets the need of quality education in the challenging world of business.

Over the last 50 years the college has gained an excellent reputation in the field of Technical Education. SPCE is one of the few colleges that have received Grade 'A+' rating for its aided courses from the Govt. of Maharashtra which certifies the spirit of excellence that the institute has symbolized and always practiced. Institute celebrated its golden jubilee in the year 2012.

## MECHANICAL ENGINEERING DEPARTMENT

Mechanical Engineering Department of Sardar Patel College of Engineering commenced in 1962. The department offers one undergraduate program (B. Tech in Mechanical Engineering), two postgraduate programs (M. Tech. in Thermal Engineering and M. Tech. in Machine Design) and a Ph.D. program.

The B. Tech. (Mechanical Engineering) program was awarded accreditation (tier-I) by NBA for period of AY2017-18 up to 2020-21. The M. Tech. (Machine Design) and M. Tech. (Thermal Engineering) programs were awarded accreditation for period of AY2017-18 up to 2019-20. The application for automatic extension of M. Tech. programs' accreditation till AY2020-21 is in process.

The department has modern infrastructure with well-equipped laboratories and computational facilities with up-to-date hardware and software resources. The well qualified and experienced faculty of the department imparts knowledge to the students in the fundamental and applied aspects of Mechanical Engineering courses by adopting conventional as well as the latest teaching and assessment tools.

## OBJECTIVES OF AICTE ATAL ACADEMY

- To set up an Academy which will plan and help in imparting quality technical education in the country
- To support technical institutions in fostering research & innovation and entrepreneurship through training
- To stress upon empowering technical teachers & technicians using Information & Communication Technology
- To utilize SWAYAM platform and other resource for the delivery of trainings
- To provide a variety of opportunities for training and exchange of experiences such as workshops, Orientations, learning communities, peer mentoring and other faculty development programs.
- To support policy makers for incorporating training as per requirements

## PATRON



**Dr. Sesha Iyer**  
Director, BoG,  
Sardar Patel College of Engineering



**Dr. Abhay Wagh**  
Director, Directorate of Technical  
Education, Maharashtra



**Dr. M. M. Murudi**  
Principal In-charge,  
Sardar Patel College of Engineering

## ORGANIZING COMMITTEE

Dr. M. M. Murudi	Principal In-Charge
Dr. Santosh Rane	Dean Academics
Dr. Sudhakar Umale	Head of Mechanical Engineering Department
Dr. Kiran S. Bhole	Course Coordinator
Prof. Sharad Valvi	Course Co-Coordinator
Prof. Haseen Shaikh	Course Co-Coordinator

## CONTACT FOR MORE INFORMATION

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