



श्री माता वैष्णो देवी विश्वविद्यालय
SHRI MATA VAISHNO DEVI UNIVERSITY

SCHOOL BOOKLET

School of Mechanical Engineering

Faculty of Engineering



 www.smvdu.ac.in
 hod.dme@smvdu.ac.in
 B-BLOCK, SMVDU
Kakryal, Katra - 182320

THE World University Rankings 2024	
Young University	201-250
Asia University	251-300
World University	801-1000

nirf INDIA RANKINGS 2024	
Architecture	31
State Public Universities	51-100
Engineering	151-200

OVERVIEW

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ABOUT OUR SCHOOL

Established in 2005, the School of Mechanical Engineering at Shri Mata Vaishno Devi University (SMVDU) is committed to fostering innovation and technological advancement. We offer B.Tech, M.Tech, and Ph.D. programs, designed in collaboration with industry experts to meet evolving industrial and societal needs. Our curriculum integrates core engineering principles with emerging technologies, equipping students to tackle real-world challenges effectively.

We specialize in 3D Printing, Robotics, Sustainable Energy, and Smart Manufacturing, supported by state-of-the-art laboratories and advanced manufacturing training facilities. These resources provide hands-on experience in modern processes, complemented by guidance from experienced faculty and technical staff. Our learning environment emphasizes practical skills, research, and innovation to ensure well-rounded development.

The school maintains strong industry connections through collaborations, internships, and research initiatives. Our global alumni network thrives in leading companies, research institutions, and academia, contributing to technological progress. With a focus on academic excellence, industry engagement, and cutting-edge research, we continue to shape the future of mechanical engineering.



**NURTURING GLOBAL THINKERS
SHAPING SCIENTIFIC LEADERS**

VISION

- To be a center of excellence by producing high calibre, competent and self-reliant mechanical engineers, who possess scientific temperament and would engage in activities relevant to industries with ethical values and flair to research



MISSION

- 01** To provide efficient engineers for meeting global requirements by imparting quality education
- 02** To explore, create and develop innovations in various aspects of engineering through industries and institutions
- 03** To emphasize on developing practical skills and socially relevant technology.
- 04** Foster human potential and leadership in specialized domains of mechanical engineering.

BOUQUET OF PROGRAMMES



- Central Workshop
- Research Lab
- Theory of Machines Lab
- Strength of Material Lab
- Thermal Engg. & I.C Lab
- Refrigerator & Air Condition Lab
- Heat and Mass Transfer Lab
- Automobile Lab
- Mechanical Vibrato Lab

ABOUT US

The School of Mechanical Engineering at Shri Mata Vaishno Devi University is a hub of innovation, preparing students for cutting-edge fields like Robotics, Smart Manufacturing, Sustainable Energy, and Advanced Materials. With state-of-the-art labs, industry collaborations, and a strong research focus, we blend interactive learning with hands-on experience. Our mission is to cultivate skilled professionals who drive technological progress, embodying excellence and innovation in mechanical engineering.

B.TECH (4YEARS)

The B.Tech in Mechanical Engineering offers a strong foundation with specializations in Smart Manufacturing, Robotics, Sustainable Energy, and Advanced Materials, combining theory and hands-on training for industry readiness.

B.TECH LATERAL ENTRY (3 YEARS)

The B.Tech Lateral Entry program offers a fast-track route for diploma and B.Sc. holders, focusing on advanced engineering concepts and practical skills.

M.TECH (2 YEARS)

The M.Tech program is designed to deepen the knowledge and research skills of students in advanced areas of Mechanical Engineering.

PH.D.

The Ph.D. program aimed at producing high-quality researchers and academicians in the field of Mechanical Engineering. It involves rigorous coursework followed by extensive research work in specialized areas.

HOD'S MESSAGE



Dr. Yatheshth Anand

Associate Professor
& I/C Head of School

Educational Background

Ph.D in Mechanical Engineering

Experience

18 years of Teaching and Administration

Specialization

Energy Management

The School of Mechanical Engineering at Shri Mata Vaishno Devi University has made significant strides since its inception in 2005. Through the establishment of state-of-the-art laboratory facilities and the development of expertise in core mechanical engineering research, the department has solidified its position as a leader in the field.

Central to our success is our esteemed faculty and staff, dedicated to providing students with not only top-tier technical education but also instilling in them the leadership qualities necessary to carve out paths of employment for themselves and others. Our curriculum, in line with the National Education Policy of 2020, emphasizes hands-on learning experiences through internships, projects, and industrial training, enriching theoretical knowledge with practical application.

Students are encouraged to undertake mini-projects and industrial training to complement their classroom with experimental learning. Moreover, they actively engage in solution based projects that benefit local industries, fostering teamwork and collaboration while imparting invaluable real-world experience.

FACULTY PROFILE



Dr. Eswarmoorthy Muthusamy

Professor

Educational Background

PhD, M.Tech, B.Tech.

Experience

14 years of Teaching and Administration

Teaching Subjects

Solar thermal Energy, Energy technology

Email

m.eswaramoorthy@smvdu.ac.in



Prof. Balbir Singh

Professor
I/c. Dean of Academics

Educational Background

P.hd in Advanced Machining Process

Experience

18 years of Teaching and Administration

Specialization

Advanced Machining, Production

Email

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Prof. Raghvendra Kumar Mishra

Professor

Educational Background

B.E.(Mechanical), M.Tech.(ME) Ph.D.

Experience

25 years of Teaching, Research & Administration

Teaching Subjects

Strength of Materials, Mechanical Vibration

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rk Mishra@smvdu.ac.in

FACULTY PROFILE



Dr. Sanjay Mohan

Associate Professor

Educational Background

Doctorate in Mechanical Engineering

Experience

26 years of Teaching, R&D and Administration

Teaching Subjects

Solid Lubricants, ergonomics, Self Lubricating Composite

Email

sanjay.mohan@smvdu.ac.in



Dr. Sanjay Sharma

Associate Professor

Educational Background

Ph.D., M. Tech

Experience

15 years of Teaching and Research

Teaching Subjects

Lubrication and Bearing Design

Email

sanjaysharma@smvdu.ac.in



Dr. Varun dutta

Associate Professor

Educational Background

Ph.D., M.Tech.

Experience

13 years of Teaching

Teaching Subjects

Friction Stir Processing

Email

varun.dutta@smvdu.ac.in



Dr. Mir Irfan Ul Haq

Associate Professor

Educational Background

Ph.D. M.Tech , B.E. (ME)

Experience

12 years of Teaching, Research and Administration

Teaching Subjects

alloy composites,

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Dr. Sanjeev Anand

Associate Professor

Educational Background

Ph.D.

Experience

18 years of Teaching and Research

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Dr. Amit Kumar Sinha

Assistant Professor

Educational Background

Ph.D., M.Tech.

Experience

10 years of Teaching and Research

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Dr. Kapil Chopra

Assistant Professor

Educational Background

• B.Tech., M. Tech., Ph.D.

Experience

12 years of Teaching

Teaching Subjects

Thermal Engineering

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kapil.chopra@smvdu.ac.in



Dr. Rajiv Kumar

Assistant Professor

Educational Background

Ph.D., M.Tech.

Experience

10 years of Teaching and Research

Teaching Subjects

Industrial & Production

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Dr. Ankush Raina

Assistant Professor

Educational Background

Ph.D., M. Tech

Experience

11 years of Teaching

Teaching Subjects

Mechanical System Design

Email

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Dr. Pradeep Singh

Assistant Professor

Educational Background

Ph.D., M. Tech

Experience

12 years of Teaching

Teaching Subjects

Fluid and Thermal Sciences

Email

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SPONSORED PROJECTS

Project Title	Funding Agency	Amount (INR)	Status
Solar PV- Thermoelectric Generator with Composite PCM	SURE scheme DST – ANRF (Erstwhile SERB)	26,00,000	Ongoing
Ergonomic Apple Harvesting System	PRISM-DST	2,00,000	Completed
Design and Development of Renewable Energy Powered Bakery Unit for Skill Development and Employment Generation in Himalayan Region	Ministry of Environment, Forest and climate change (RE Division) Govt. of India	48,00,000	Ongoing
Abatement of clinically investigated allergies through improved IAQ for UT of J&K	J&K Science Technology & Innovation Council, Department of Science & Technology, Govt. of J&K	8,00,000	Ongoing
Solar PV- Thermoelectric Generator with Composite PCM	Charging infrastructure deployment in view of electric vehicle infusion: A survey of UT of J&K	6,80,000	Ongoing

SPONSORED PROJECTS

Project Title	Funding Agency	Amount (INR)	Status
To study the synergism of grapheme and diamond nanoparticles in enhancing the Tribological performance of PAO oil for automotive application,	J&K Science Technology & Innovation Council, Department of Science & Technology, Govt. of J&K	5,75,000	Ongoing
Selective coating for solar absorption with high thermo-mechanical stability and material obtained thereof (Published). Multitasking Mop Handle. Patent No. 508337. Patent granted by Indian Patent Office, Govt. of India. 3D printed bite blocker with detachable tongue retractor, Application No: 202411058382 (filed at Indian Patent Office, August 2024). Solar Cooking Pot – Encapsulation of Latent Heat Storage Material in Longitudinal Dome Container AI-Powered Energy-Efficient Waste Compaction Device. Design no: 427361-001. 3D Printed bite blocker with grooved lock mechanism for improved dental procedures. Reinforced aluminum matrix composites and method of preparation there	RuTAG, IIT Delhi	2,95,000	Completed
Development of light weight material for snow clearance applications	Department of Science & Technology, Govt. of J&K	7,00,000	Ongoing
Selective coating for solar absorption with high thermo-mechanical stability and material obtained thereof (Published). Multitasking Mop Handle. Patent No. 508337. Patent granted by Indian Patent Office, Govt. of India. 3D printed bite blocker with detachable tongue retractor, Application No: 202411058382 (filed at Indian Patent Office, August 2024). Solar Cooking Pot – Encapsulation of Latent Heat Storage Material in Longitudinal Dome Container. AI-Powered Energy-Efficient Waste Compaction Device. Design no: 427361-001. 3D Printed bite blocker with grooved lock mechanism for improved dental procedures. Reinforced aluminum matrix composites and method of preparation there	Department of Science & Technology, Govt. of J&K	7,00,000	Ongoing
Design, development, theoretical and experimental study of smart tribological coatings for space applications	Department of Science and Technology (DST), Govt. Of India (In Collaboration with NIT Srinagar)	51,70,282	Ongoing
Development and tribological characterization of self-lubricating Aluminium alloy (AA6061)/nano-ceramic composite	CRS-TEQIP-III scheme	1,328,000	Completed

LIST OF PATENTS (SUBMITTED/ AWARDED)

- Selective coating for solar absorption with high thermo- mechanical stability and material obtained thereof (Published).
- Multitasking Mop Handle. Patent No. 508337. Patent granted by Indian Patent Office, Govt. of India.
- 3D printed bite blocker with detachable tongue retractor, Application No: 202411058382 (filed at Indian Patent Office, August 2024).
- Solar Cooking Pot – Encapsulation of Latent Heat Storage Material in Longitudinal Dome Container
- AI-Powered Energy-Efficient Waste Compaction Device. Design no: 427361-001.
- 3D Printed bite blocker with grooved lock mechanism for improved dental procedures.
Reinforced aluminum matrix composites and method of preparation there

LIST OF BOOKS AND MONOGRAPHS PUBLISHED

- Tribology and Sustainability, 1st Edition (2021) CRC Press (T&F Group) ISBN 9780367551469.
- Nanomaterials for Sustainable Tribology, 1st Edition (2023) CRC Press (T&F Group) ISBN 9781032306902.
- 3D Printing and Sustainable Product Development, 1st Edition (2024) CRC Press (T&F Group) ISBN 9781032306803.
- Engineering Mechanics, Kirti Publishers (India) 2019, ISBN: 9789389411010.
- Advancements in Natural Fibre Composites for Industrial Applications, Global Academic Excellence (M), SDN BHD, Malaysia EISBN:978-967-2426-46-2.
- Effect of Finite Element Mesh Orientation – Subjected to Torsion Problems. A monograph from VDM Verlag, Germany.

LABORATORY INFRASTRUCTURE



STRENGTH OF MATERIALS LAB



THERMAL ENGG. & I.C. ENGINE LAB



REFRIGERATOR & AIR CONDITIONING LAB



HEAT AND MASS TRANSFER LAB



AUTOMOBILE LAB



MECHANICAL VIBRATION LAB



PRODUCTION ENGG & CIMS LAB



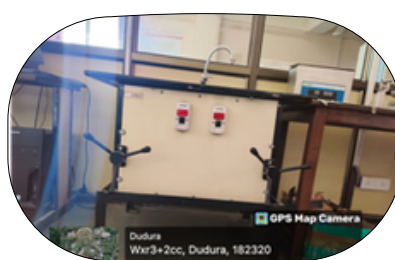
FLUID MACHINERY LAB



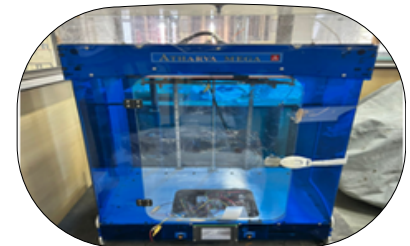
CAD Lab



METROLOGY & MEASUREMENTS LAB



MATERIAL SCIENCE LAB



RESEARCH LAB



FLUID MECHANICS LAB



Mechatronics lab



CENTRAL WORKSHOP

SOME MILESTONES



2005 | School Establishment

In 2005, The School was established to provide students with comprehensive training in mechanical engineering, preparing them to meet the demands of the global industrial market.



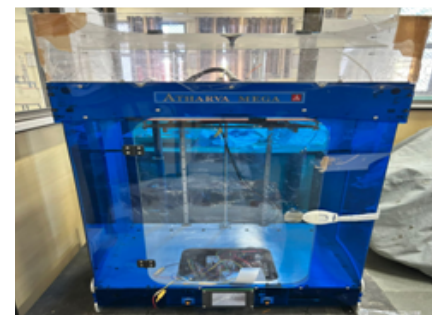
2008 | TITIKSHA Tech fest

In 2008, The annual technical festival, **TITIKSHA** was started that showcases student projects, workshops, and competitions, promoting innovation and technical skills.



2011 | Drone Development

Students from SMVDU's Mechanical Engineering and Electronics & Communication departments have collaboratively developed an autonomous quadcopter drone. Guided by faculty mentors, the project integrates mechanical design with advanced electronics.



2013 | 3D Printing Lab

The school enhanced its research infrastructure by establishing specialized laboratories for 3D Printing and Advanced Manufacturing. These facilities were designed to support cutting-edge research and provide hands-on training, equipping students with skills in this rapidly evolving field.



2023 | AET Club

In 2022, Students of Mechanical Engineering founded the AET club (Automation and Emerging Technology Club). The club focuses on the emerging technologies, fields and Industry 4.0 domains- Mechatronics, Industrial Automation, Additive Manufacturing, Robotics, Artificial Intelligence, Augmented Reality, Programmable Logic Controller and many more.



2024 | SAE BAJA Club

SMVDU actively promotes participation in SAE BAJA competitions through its SAE Baja Club. The university has a strong history in events like SAE BAJA 2014, 2018, and ECO KART 2017, encouraging students to design and fabricate vehicles for national-level competitions. The club continues this legacy with students working on the SAE BAJA Vehicle 2025, showcasing SMVDU's commitment to fostering innovation and practical engineering skills

STUDENT LIFE



Diverse Students

Our school prides itself on its diverse student population, with students from over 18 states/UT, creating a vibrant and multicultural community. This diversity enriches the learning experience and encourages cross-cultural friendships.



Extracurricular Activities

Our students actively engage in various extracurricular activities, including sports, arts clubs, workshops etc.



Community Service

Our students are committed to giving back to the community. They actively participate in various community service projects like NSS, NCC etc. volunteering their time and skills to make a positive impact locally and globally.



Global Perspective

We encourage students to embrace a global perspective through cultural exchange programs, international partnerships, and educational trips. These experiences broaden their horizons and prepare them for an interconnected world.



Academic Excellence

School of Mechanical at SMVDU places a strong emphasis on academic excellence. Our students are dedicated to their studies and many of them achieve high honors and go on to attend prestigious universities/ Industries.

SOME TRAINING & PLACEMENT COMMITTEE



Dr. Varun Dutta

**Coordinator
Training & Placement Committee**

Associate Professor
varun.dutta@smvdu.ac.in

COORDINATOR'S MESSAGE

At the Training & Placement (T&P) Cell, our goal is simple—to help students transition smoothly from academics to industry. We actively organize soft skills training, industry visits, internships, and placement drives to ensure they have the right skills and exposure to succeed.

With strong coordination between the Training & Placement Office (TPO) and Student Coordinators, we strive to connect students with top organizations and create a seamless placement experience. We also take pride in highlighting the achievements of our students and faculty, showcasing their hard work and success.

Our commitment remains firm in supporting and guiding students toward their career aspirations. Looking ahead, we're excited for another year of successful placements and industry collaborations!

KEY FEATURES

- SOFT SKILLS CLASSES
- INDUSTRY VISITS
- SUMMER TRAINING
- INTERNSHIPS
- FIELD VISITS



OUR ALUMNI



Arnab Lahiri
Scientist ISRO



Vikas Singla
Senior Account Manager
ITC Infotech



Sumit Ratna
Scientist ISRO



Yogesh Tyagi
production specialist
Oil & energy Industry



Saquib Rauf
PhD at Laboratoire
Interdisciplinaire Carnot de
Bourgogne



Rahul Bakaya
Chief Growth Officer
property Dollar



Shobit Kotru
Senior Architect,
MES-MOM-Industry 4.0



Mr. Dhananjay Singh
CEO Frameln



Sajal Dixit
Sourcing Stragist,
American Airlines

PLACEMENTS OF SOME



Mr. Gokul Jandial placed at Planet Spark with CTC of 7.5 LPA



Mr. Arnab Lahiri is currently working as a scientist at ISRO



Mr. Sumit Ratan, is presently employed as a scientist at ISRO.



Mr. Dhananjay Singh, is the CEO of Framelnn, a private limited company.



Sajal Dixit specializes in Supply Chain Transformation Procurement, and Sourcing Strategy at American Airlines.



Yogesh Tyagi is an experienced Production Specialist in the oil & energy industry with expertise in AutoCAD, 3D Printing.



Saquib Rouf Currently pursuing PhD at the Laboratoire Interdisciplinaire Carnot de Bourgogne – UMR CNRS 6303, working closely with the Microfluidic Innovation Center in Paris and EPFL Switzerland.



Rahul Bakaya Chief Growth officer at Property Dollar



Tawqeer Nasir Postdoctoral fellow at John Hopkins Whiting School of Engineering

OUR RECRUITERS



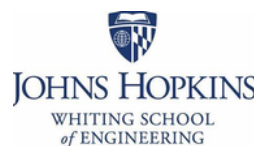
ERICSSON



BOSCH



HCL



and many more...



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School of Mechanical Engineering

Design Team

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Mr. Devesh Pratap Singh Chauhan, 4th Year, SoECE
Mr. Utsav Manideep, 3rd Year, SoECE