

Vocational Education and Training Initiatives

Manav Rachna University fosters a strong culture of skill-based and vocational learning in alignment with SDG 4.3.3, which emphasizes equitable access to quality technical and vocational education for all. The university's approach integrates academic learning with practical training, industry collaboration, and innovation-driven pedagogy. This vertical is organized into three key sub-tabs:

- (1) Events Conducted for Vocational Education, showcasing diverse workshops, seminars, and hands-on sessions that strengthen employability and lifelong learning.
- (2) Mapping of Courses with Vocational Training, which aligns academic curricula with vocational skill outcomes to ensure real-world readiness.
- (3) Mapping of Faculty and Student Projects with SDG 4, highlighting applied research and innovations that promote sustainable, skill-based learning.

Together, these components reflect MRU's commitment to creating an inclusive and future-ready learning ecosystem rooted in the principles of SDG 4 – Quality Education.

Sub Tab 1: Events conducted for Vocational Education:

Manav Rachna University actively promotes vocational education as a pathway to employability and lifelong learning. Through a series of structured events, workshops, and hands-on training sessions, the university creates opportunities for students to gain practical skills aligned with industry needs. These initiatives bridge the gap between classroom learning and real-world application, empowering learners to explore diverse career options across technical, creative, and entrepreneurial domains. Each event is designed in collaboration with industry partners, skill councils, and government agencies to ensure relevance, inclusivity, and impact. The focus remains on building competence, confidence, and a mindset for innovation among students and community participants alike, reflecting the university's commitment to SDG 4.3.3—expanding access to quality technical and vocational education for all.

List of Events under Vocational Education:

Date	Event / Initiative	Organizing Department / School	Target Audience	Focus / Vocational Skill Area	SDG Alignment
24th July 2023	Lecture on “Management Lessons from the Teachings of Lord Krishna”	School of Management and Commerce (SoMC)	Students, educators, entrepreneurs, general public	Leadership Skills, Ethical Decision-Making, Management Insight	SDG 4 (Quality Education), SDG 16 (Peace, Justice & Strong Institutions)

27 th July 2023	Lecture on “Identifying Opportunities with a Hawk Eye”	School of Management and Commerce (SoMC)	Aspiring entrepreneurs, business professionals, students	Entrepreneurial Thinking, Strategic Management	SDG 4, SDG 8 (Decent Work & Economic Growth)
25 th July 2023	Interactive session on Use of Analytics	School of Management and Commerce (SoMC)	Aspiring entrepreneurs, business professionals, students	Entrepreneurial Thinking, Strategic Management	SDG 4, SDG 8 (Decent Work & Economic Growth)
July 22 2024	<i>The Club Carnival</i>	Manav Rachna Centre for Peace and Sustainability (MRCPS),	School students, teachers, and community participants	Environmental Awareness,	SDG 4
30 th May 2024	Online workshop on Business Model Canvas (BMC)	SoMC at Echelon Institute of Technology, Faridabad	Aspiring entrepreneurs, business professionals, students	Entrepreneurial Thinking, Strategic Management	SDG 4, SDG 8
29-Jan-24	International Webinar on “Generative AI” – Building Vocational Competence for the Future Workforce	OIAC & CST	students, educators, researchers, and professionals interested in emerging technologies	Digital Literacy and Computational Thinking, Entrepreneurial and Employability Skills	SDG 4 Quality Education, SDG 17 Partnerships for the Goals
August 10, 2023	<i>“Let’s Talk About Our Money: A Way to Entrepreneurial Development”</i>	SOEH	School students, teachers, and community participants,	Financial Literacy, Entrepreneurial Skills, Self-Reliance and Economic Awareness	SDG 4, SDG 8

January 12, 2024,	Expert Talk on “E-Waste Management” on	SOEH	School students, teachers, and community participants,	Decision-making and problem-solving for eco-friendly waste operations Green-industry and sustainability-related employability skills	SDG 4, SDG 9, SDG 11
June 3 – June 15, 2024	Training Session on Integrated Circuit Design Module	Department of Electronics and Communication Engineering (ECE), School of Education and Humanities, Manav Rachna University	Undergraduate and postgraduate students from the Department of Electronics and Communication Engineering (ECE)	Integrated Circuit (IC) Design Skills, Simulation and Verification Techniques Design Thinking and Innovation Technical Proficiency in Electronic Design Tools Industry-Oriented Problem Solving	SDG 4, SDG 9
14 th March 2024	Expert Talk on Role of HDL and HVL in ASIC/SOC Design & Verification	Department of ECE, Manav Rachna University	Undergraduate and postgraduate students of Electronics and Communication Engineering.	HDL and HVL programming ASIC/SOC design and verification Simulation and testing techniques Understanding of EDA tools Industry-oriented	SDG 4, SDG 9

				problem-solving skills	
8th November 2023	Report on Alumni Lecture on Employability Skills	Department of Mechanical Engineering, Manav Rachna University	Undergraduate students of Mechanical Engineering.	<p>Communication and interpersonal skills</p> <p>Problem-solving and analytical thinking</p> <p>Teamwork and collaboration</p> <p>Professional ethics and workplace behaviour</p> <p>Adaptability and lifelong learning skills</p>	SDG 4, SDG 8
January 24–25, 2024	Workshop: “Data Analytics Using Python”	School of Management and Commerce (SoMC), Manav Rachna University	Undergraduate and postgraduate students of the School of Management and Commerce, Manav Rachna University.	<p>Python programming and use of data analytics libraries (NumPy, Pandas, Matplotlib, Seaborn)</p> <p>Data cleaning, processing, and visualization techniques</p> <p>Awareness of vocational opportunities in Data Analytics and Business Intelligence</p> <p>Digital literacy and technological adaptability</p>	SDGs 4, 8, and 9.

				aligned with industry demands	
July 22, 2024 – July 26, 2024	Series of Workshops: “Navigating Future Careers – Trends and Opportunities”	SoMC	Students of Classes 11 and 12 from various schools in Jammu and Kathua..	Career planning and decision-making Analytical and problem-solving skills Awareness of emerging STEM careers Technical literacy in AI, ML, and Cybersecurity	
January 24, 2024	Workshop: “User Awareness on Intellectual Property Rights	SoMC	Undergraduate and postgraduate students, research scholars, and faculty members from various universities and colleges	Skill in idea documentation and innovation management Research-to-patent conversion awareness	SDG 4, SDG 9
Mapping of various Courses offered at Manav Rachna University with Vocational Training and SDG 4					
Mapping of various Projects of faculty and Student offered at Manav Rachna University with Vocational Training and SDG 4					

1. Session - A lesson for Management, Shree Mad Bhagwat Geeta organised on 24th July 2023

On 24th July 2023, the fourth day of the Orientation Programme at *Manav Rachna University* was conducted at the I-Block Auditorium, focusing on bridging academic knowledge, promoting creativity, and integrating value-based learning. The day began with the reporting session (8:30 AM – 9:00 AM),

where students assembled, and attendance was taken by *Ms. Megha*. Faculty mentors warmly interacted with the new students, helping them feel comfortable and engaged. This was followed by Bridge Courses in Economics and Accountancy (9:00 AM – 10:30 AM), conducted by *Dr. Shweta* and *Ms. Sandhya*, aimed at familiarizing students with essential concepts and ensuring a smooth academic transition. The Poster Presentation on Sustainable Development Goals (10:30 AM – 12:00 PM), guided by *Ms. Khushboo* and *Ms. Sandhya*, encouraged students to creatively express their understanding of global sustainability through art. The best entries were recognized, and all posters were displayed within the department, symbolizing the university’s commitment to SDG awareness. After the lunch break (12:00 PM – 1:00 PM), the day concluded with an inspiring session by *Dr. Bindu Aggarwal* on “Management Lessons from the Shreemad Bhagavad Gita” (1:00 PM – 2:00 PM). The lecture explored vital management principles such as Dharma (Role and Responsibility), Empathy, Karma, and Leadership, connecting timeless wisdom with modern managerial practices. The session included interactive self-awareness and leadership activities, enriching students’ personal and professional perspectives. Overall, the day reflected MRU’s dedication to holistic education — combining academic preparedness, creativity, and ethical learning to nurture socially responsible and lifelong learners.



2. Entrepreneurial Vision Workshop: “Identifying Opportunities with a Hawk Eye”

On 27th July 2023, the School of Management and Commerce (SoMC) at *Manav Rachna University* organized an insightful session titled “Identifying Opportunities with a Hawk Eye.” The event aimed to cultivate an entrepreneurial mindset among students by helping them learn the art of recognizing and assessing potential opportunities in dynamic business environments. The session emphasized the importance of strategic observation, critical analysis, and proactive thinking, which are essential qualities for aspiring entrepreneurs and future leaders. Through

engaging discussions and practical examples, participants were encouraged to look beyond conventional perspectives and identify hidden possibilities in everyday situations. The session not only inspired students to think innovatively but also reinforced the university's commitment to nurturing industry-ready professionals equipped with creativity, adaptability, and problem-solving skills. It served as a valuable step in aligning academic learning with real-world entrepreneurial competencies, reflecting MRU's vision of fostering lifelong learners and socially responsible innovators.

3. Informative session on “Use of Analytics”

On 25th July 2023, the School of Management and Commerce (SoMC) at *Manav Rachna University* organized an informative session on “Use of Analytics” as part of its Vocational and Lifelong Learning Initiatives aligned with SDG 4 – Quality Education. The session aimed to equip students with practical knowledge of data analytics tools and techniques that are crucial for effective business decision-making in today's data-driven world. Participants were introduced to the fundamentals of data interpretation, visualization, and predictive analysis, emphasizing how analytics can enhance organizational efficiency and strategic planning. The interactive format encouraged students to engage with real-world business scenarios, fostering analytical thinking, logical reasoning, and problem-solving skills.

By offering such applied learning experiences, SoMC reinforced its commitment to bridging the gap between academia and industry. The event also supported the university's broader mission of nurturing lifelong learners who can adapt to emerging technologies and evolving market needs. Through this initiative, MRU continues to empower students with vocational competencies that promote employability, innovation, and informed decision-making reflecting its strong alignment with the principles of Sustainable Development Goal 4: Quality Education.

4. The *Club Carnival*, organized by the Manav Rachna Centre for Peace and Sustainability (MRCPS), served as an engaging platform to promote vocational education and lifelong learning in alignment with SDG 4 – Quality Education. The event aimed to introduce new students to MRCPS's mission of fostering peace, sustainability, and personal growth through continuous learning opportunities.

Through interactive sessions, informative presentations, and experiential activities, students were introduced to various skill-based and community-oriented initiatives of MRCPS. The carnival highlighted how participation in workshops, awareness drives, and educational

projects can enhance students' vocational competencies, critical thinking, and problem-solving abilities key elements of lifelong learning.

A creative activity, the *MRCPS Family Tree*, symbolized inclusion and collaboration, encouraging students to see themselves as lifelong learners contributing to a collective goal. The event also bridged the gap between enthusiasm and guidance by connecting freshers with mentors and senior members who shared their learning experiences and growth journeys within MRCPS. The *Club Carnival* effectively encouraged students to pursue skill-based, experiential, and lifelong learning pathways. By aligning with SDG 4, the event reinforced MRCPS's commitment to empowering youth through education that extends beyond classrooms nurturing informed, capable, and socially responsible individuals equipped for sustainable futures.



5. Title: *Online Workshop on Business Model Canvas (BMC) – Strengthening Vocational Skills for Entrepreneurship*

Date: May 30, 2024

Organized by: Echelon Institute of Technology, Faridabad

Resource Person: Dr. Pooja Kapoor

An online workshop on Business Model Canvas (BMC) was organized by Echelon Institute of Technology, Faridabad, on May 30, 2024, under the guidance of Dr. Pooja Kapoor. The session aimed to enhance students' vocational and entrepreneurial competencies by providing practical insights into business planning and innovation. Dr. Kapoor explained the structure and key components of the BMC, including value proposition, customer segments, channels, revenue streams, and cost structure. Participants learned how to design and analyze business models using real-life examples, enabling them to connect theoretical concepts with practical applications. The workshop emphasized skill development for employability and entrepreneurship, encouraging students to think creatively, make data-driven decisions, and understand market dynamics all essential aspects of vocational education and training. The workshop successfully bridged the gap between classroom learning and industry application. By integrating Business Model Canvas into vocational learning, it equipped students with critical business planning and problem-solving skills necessary for professional growth and entrepreneurial success.



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 TRANSFORMING THE EDUCATION

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(Ministry of HRD Initiatives)

18
 YEARS
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 EXCELLENCE

ECHELON INSTITUTE OF TECHNOLOGY, FARIDABAD
 — ORGANIZES —
**“ONLINE WORKSHOP ON
 BUSINESS MODEL CANVAS (BMC)”**

30TH MAY, 2024

02:00 PM – 03:30 PM

PROF. (DR.) POOJA KAPOOR
 Academician & Researcher
 Manav Rachna University,
 Faridabad

Dr. Poonam Rani
 Convener, IIC

Prof. (Dr.) Irfanullah Khan
 Vice-President, IIC

Prof. (Dr.) Sunil Verma
 President, IIC

Workshop Link:
<https://meet.google.com/ouk-vxdc-svo>

+91 9999753763

www.eitfaridabad.com

6. Title: International Webinar on “Generative AI” – Building Vocational Competence for the Future Workforce

Date: January 29, 2024

Organized by: OIAC & CST

Relevant SDGs: SDG 4 – Quality Education, SDG 17 – Partnerships for the Goals

Report:

An International Webinar on “Generative AI” was organized by OIAC and CST on January 29, 2024, focusing on how emerging technologies, particularly Large Language Models (LLMs), are reshaping education, industry, and vocational landscapes. The session aimed to enhance participants’ understanding of AI-driven innovations and their applications in skill-based and professional training contexts.

The expert speakers provided insights into how Generative AI is transforming various sectors, emphasizing its role in vocational training, digital literacy, and employability. Participants learned how AI tools can support creative problem-solving, automation, and innovation in professional settings. The session also highlighted the importance of upskilling and reskilling to meet the demands of an AI-driven economy.

By integrating real-world examples and interactive discussions, the webinar helped students and educators understand how AI competencies can enhance career readiness and lifelong

learning. The webinar successfully promoted awareness about the evolving role of Generative AI in vocational education and training, preparing learners to adapt to technological changes in the workforce. Through such initiatives, OIAC and CST continue to contribute to SDG 4 and SDG 17 by fostering global partnerships for quality, technology-driven education and sustainable skill development.

7. Title: Seminar on Investor Awareness – “Let’s Talk About Our Money: A Way to Entrepreneurial Development”

Date: August 10, 2023

Organized by: School of Education and Humanities (SOEH)

Relevant SDG: SDG 8 – Decent Work and Economic Growth

Report:

The School of Education and Humanities (SOEH) organized a seminar titled “*Let’s Talk About Our Money: A Way to Entrepreneurial Development*” on August 10, 2023, focusing on vocational training and financial literacy as pathways to entrepreneurship and sustainable economic growth.

The session aimed to equip students with practical knowledge of financial management, investment planning, and entrepreneurial skills, essential for vocational and professional readiness. Experts discussed the importance of understanding money management, savings, and investment as foundational competencies for future entrepreneurs.

Through interactive discussions, participants learned how informed financial decisions contribute to self-reliance, career development, and employability. The seminar also encouraged students to adopt an entrepreneurial mindset a key component of vocational education aligned with SDG 8’s vision of promoting productive employment and economic growth. The seminar effectively linked financial awareness with vocational skill development, empowering students to make sound economic choices and explore entrepreneurial ventures. It reinforced the role of vocational education in building a financially literate and economically empowered generation.

MANAV RACHNA UNIVERSITY
Declared as State Private University vide Haryana Act 26 of 2014

AMFI

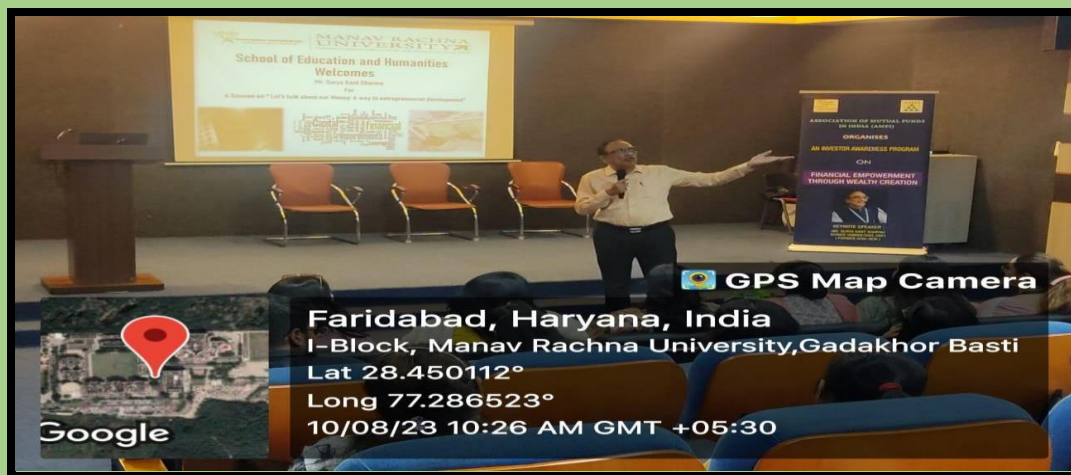
Speaker :
MR. SURYAKANT SHARMA

SEMINAR ON "INVESTOR AWARENESS PROGRAM ON "LET'S TALK ABOUT OUR MONEY": A WAY TO ENTREPRENEURIAL DEVELOPMENT"

VENUE - I BLOCK AUDITORIUM

Thursday,
10th August 2023
10:00AM -12:00NOON

SR. CONSULTANT, AMFI,
EX-DGM SEBI



8. Title: Expert Talk on “E-Waste Management”

Date: January 12, 2024

Organized by: School of Education and Humanities, Manav Rachna University
Related SDGs: SDG 9 – Industry, Innovation and Infrastructure; SDG 11 – Sustainable Cities and Communities

Report

The School of Education and Humanities, Manav Rachna University, organized an Expert Talk on “E-Waste Management” on January 12, 2024, to enhance vocational learning and promote sustainable practices aligned with SDG 9 and SDG 11. The session aimed to equip students with practical knowledge and vocational skills related to the safe handling, recycling, and management of electronic waste an increasingly vital area in today’s technology-driven world.

The expert explained the sources, types, and hazards of e-waste, along with modern recycling techniques and government regulations guiding responsible waste disposal. Participants were introduced to hands-on vocational concepts such as dismantling electronic components, segregating materials for reuse, and understanding the economic potential of recycling.

By integrating real-world applications and sustainability perspectives, the session promoted green vocational education, preparing learners for employment opportunities in the recycling industry, environmental management, and sustainable infrastructure sectors. The event also emphasized the importance of innovation and technical competence in building eco-friendly, resilient communities.

9. Title: *Training Session on Integrated Circuit Design Module*

Dates: June 3 – June 15, 2024

Organized by: Department of Electronics and Communication Engineering (ECE), School of Education and Humanities, Manav Rachna University

Resource Person: Mr. Cholesh Aggarwal, Design and Verification Engineer, 3ST Technologies

Related SDG: SDG 9 – Industry, Innovation and Infrastructure

Report

A training session on “Integrated Circuit Design Module” was organized by the Department of Electronics and Communication Engineering from June 3 to June 15, 2024, under the guidance of Mr. Cholesh Aggarwal, Design and Verification Engineer at 3ST Technologies. The session aimed to strengthen students’ technical and practical understanding of integrated circuit (IC) design, a vital component in modern electronics and innovation-driven industries.

Through hands-on exercises and industry-oriented demonstrations, participants gained exposure to IC design processes, simulation tools, and verification techniques. The training

emphasized innovation, precision, and application-based learning, bridging the gap between theoretical knowledge and real-world engineering practices.

The program effectively contributed to SDG 9 – Industry, Innovation and Infrastructure by nurturing technological proficiency and design-thinking skills among future engineers, preparing them to contribute to sustainable industrial advancement.

10. Report on Expert Talk on Role of HDL and HVL in ASIC/SOC Design & Verification

Date: 14th March 2024

Organised by: Department of ECE, Manav Rachna University

Resource Person: Mr. Shashikant Sharma, Knowledge Associate, Truechip Solutions Pvt. Ltd., Noida

SDG Focus: SDG 4, SDG 9 – Industry, Innovation and Infrastructure

The Department of Electronics and Communication Engineering organized an expert talk on “*Role of HDL and HVL in ASIC/SOC Design & Verification*” to enhance students’ vocational and technical competencies in the semiconductor industry. The session focused on the importance of Hardware Description Languages (HDL) and Hardware Verification Languages (HVL) in modern chip design processes.

Students gained insights into real-world applications of ASIC/SOC design, verification methodologies, and the skillsets required in the electronics design automation (EDA) domain. The expert also emphasized industry trends and career pathways in VLSI design.

Target Audience: Undergraduate and postgraduate students of Electronics and Communication Engineering.

Vocational Skills Gained: HDL and HVL programming, ASIC/SOC design and verification, Simulation and testing techniques, Understanding of EDA tools, Industry-oriented problem-solving skills

11. Report on Alumni Lecture on Employability Skills

Date: 8th November 2023

Organised by: Department of Mechanical Engineering, Manav Rachna University

Resource Person: Mr. Ayush Kumar Jha (Alumnus)

SDG Focus: SDG 4 – Quality Education; SDG 8 – Decent Work and Economic Growth

The Department of Mechanical Engineering organized an Alumni Lecture on “*Employability Skills*” to bridge the gap between academic learning and industry expectations. Mr. Ayush Kumar Jha, an accomplished alumnus, shared valuable insights into the essential vocational and soft skills required to succeed in the professional world.

The session emphasized the importance of communication, teamwork, problem-solving, adaptability, and continuous learning in building a sustainable career. Students also gained awareness about workplace ethics, professional behavior, and industry readiness strategies, aligning with the goals of enhancing employability and promoting lifelong learning.

Target Audience: Undergraduate students of Mechanical Engineering.

Vocational Skills Gained: Communication and interpersonal skills, Problem-solving and analytical thinking, Teamwork and collaboration, Professional ethics and workplace behavior, Adaptability and lifelong learning skills



12. Series of Workshops: “Navigating Future Careers – Trends and Opportunities”

Report on the Series of Workshops: “Navigating Future Careers – Trends and Opportunities”

Date: July 22, 2024 – July 26, 2024

Organised by: Dr. Animesh Singh, SoMC

Venues: Mount Litera Zee School, Sanskriti Jammu School, Delhi Public School, Kartar Public School (Kathua), Jammu Sanskriti School, Dewan Badrinath School, K.C. Public School, Jammu

SDG Focus: SDG 4 – Quality Education; SDG 8 – Decent Work and Economic Growth; SDG 9 – Industry, Innovation and Infrastructure

A series of vocationally oriented workshops titled “*Navigating Future Careers: Trends and Opportunities*” were conducted by Dr. Animesh Singh from July 22 to July 26, 2024, across various schools in Jammu and Kathua. The workshops were designed to provide senior secondary students with career-oriented knowledge, skill development opportunities, and an understanding of the changing dynamics of the global job market.

The sessions emphasized career readiness, vocational exploration, and skill-based learning, introducing students to emerging professional pathways in Science, Technology, Engineering, and Management. Dr. Singh discussed futuristic domains such as Artificial Intelligence (AI), Machine Learning (ML), Cybersecurity, Business Analytics, Financial Analytics, and Healthcare Administration — all of which demand a blend of technical and soft skills.

The workshops were highly interactive, encouraging students to identify their individual strengths and align them with suitable career trajectories. Participants also gained exposure to employability competencies essential for success in STEM-related fields.

Target Audience: Students of Classes 11 and 12 from various schools in Jammu and Kathua.

Vocational Skills Gained: Career planning and decision-making, Analytical and problem-solving skills, Awareness of emerging STEM careers, Technical literacy in AI, ML, and Cybersecurity, Communication and presentation skills, Entrepreneurial and innovation mindset.

13. Workshop: “Data Analytics Using Python”

Report on the Workshop: “Data Analytics Using Python”

Date: January 24–25, 2024

Organised by: School of Management and Commerce (SoMC), Manav Rachna University

Coordinator: Dr. Garima Kapoor

Convener: Dr. Animesh Singh

Faculty Organisers: Prof. Pooja Sharma, Dr. Sneha Bhatia, and Dr. Neha Choudhary

Venue: Manav Rachna University, Faridabad

SDG Focus: SDG 4 – Quality Education; SDG 8 – Decent Work and Economic Growth; SDG 9 – Industry, Innovation and Infrastructure

Report

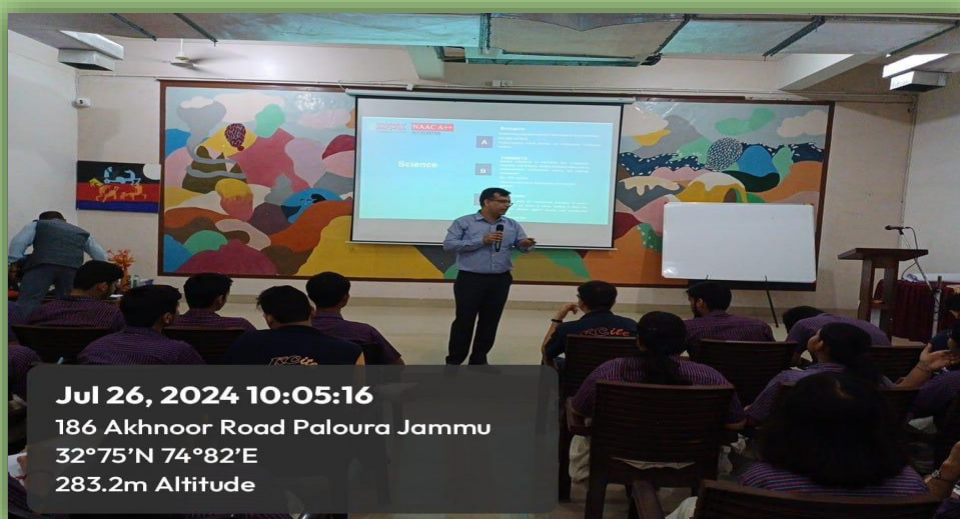
A two-day vocationally oriented workshop titled “Data Analytics Using Python” was conducted by the School of Management and Commerce (SoMC), Manav Rachna University, on January 24–25, 2024. The workshop aimed to develop technical proficiency, analytical reasoning, and vocational employability skills among students in line with the United Nations Sustainable Development Goals.

The workshop focused on building practical skills in Python programming for data analysis and interpretation. Through hands-on exercises, participants explored data cleaning, visualization, and exploratory data analysis (EDA) using Python libraries such as NumPy, Pandas, Matplotlib, and Seaborn. The sessions bridged theoretical learning with real-world applications, preparing participants for data-driven roles in modern industries. In addition to technical instruction, the workshop introduced learners to the vocational dimension of data analytics, connecting classroom learning to potential career paths such as Data Analyst, Business Intelligence Associate, and Data Visualization Specialist. Participants learned to work with real datasets, interpret trends, and present insights — skills that are vital for industry readiness and lifelong learning. The sessions were interactive and practical in nature, ensuring that students could apply concepts through live coding exercises and mini-projects. By the conclusion of the workshop, participants had developed an integrated understanding of how data analytics drives business innovation, strategic decision-making, and digital transformation.

Target Audience: Undergraduate and postgraduate students of the School of Management and Commerce, Manav Rachna University.

Vocational Skills Gained: Python programming and use of data analytics libraries (NumPy, Pandas, Matplotlib, Seaborn), Data cleaning, processing, and visualization techniques, Analytical and problem-solving skills through real-world data tasks, Team collaboration and communication of data insights, Awareness of vocational opportunities in Data Analytics and Business Intelligence, Digital literacy and technological adaptability aligned with industry demands,

The “Data Analytics Using Python” workshop thus successfully integrated vocational training with academic enrichment, promoting a culture of technical competence, employability, and lifelong learning among Manav Rachna University students, in alignment with SDGs 4, 8, and 9.



14. Workshop: “User Awareness on Intellectual Property Rights”

Report on the Workshop: “User Awareness on Intellectual Property Rights”

Date: January 24, 2024

Organised by: Institution’s Innovation Council (IIC), Manav Rachna University

SDG Focus: SDG 9 – Industry, Innovation and Infrastructure

A university-level awareness session titled “User Awareness on Intellectual Property Rights (IPR)” was organised by the Institution’s Innovation Council (IIC), Manav Rachna University, on January 24, 2024. The session aimed to motivate participants to engage in patent activities,

understand the fundamentals of intellectual property, and contribute to a culture of innovation and entrepreneurship within the academic ecosystem. The workshop focused on the vocational dimension of innovation and research, highlighting how awareness of IPR can enhance career readiness for students, researchers, and entrepreneurs. Participants were introduced to key concepts such as patents, copyrights, trademarks, and design registrations, alongside the procedural aspects of filing and protecting intellectual property.

Through interactive discussions and case-based examples, the session encouraged students to link innovation with practical skill development — including idea generation, documentation, patent drafting, and commercialization. The workshop emphasized that understanding IPR is not just a legal requirement but a vocational skill crucial for those pursuing careers in research, technology, business innovation, and startups. By fostering intellectual awareness, the session empowered learners to protect their creative outputs and transform innovative ideas into viable entrepreneurial ventures — aligning with SDG 9 (Industry, Innovation, and Infrastructure), which emphasizes building resilient innovation ecosystems.

Target Audience: Undergraduate and postgraduate students, research scholars, and faculty members from various departments of Manav Rachna University interested in innovation, entrepreneurship, and technology-based careers.

Vocational Skills Gained: Understanding of Intellectual Property Rights (IPR) and its importance in professional domains, Awareness of patent filing, copyright, and trademark procedures, Skill in idea documentation and innovation management, Research-to-patent conversion awareness, Entrepreneurial and innovation mindset development, Legal and ethical understanding of innovation practices

The workshop successfully integrated vocational learning with innovation literacy, providing participants with industry-relevant knowledge and preparing them to contribute effectively to the national innovation landscape. By promoting IPR awareness, the Institution's Innovation Council continues to strengthen the culture of entrepreneurship, creativity, and skill-based innovation at Manav Rachna University.

Sub Tab 2: Mapping of the Courses with Vocational Training

The following table presents a comprehensive mapping of academic courses with corresponding vocational skill areas, aligned with Sustainable Development Goal 4 (Quality Education) and related SDGs. The purpose of this mapping is to highlight how each course offered at Manav Rachna University integrates vocational and employability-oriented outcomes, preparing learners with industry-relevant competencies. By linking theoretical knowledge with practical application, the curriculum fosters technical expertise, innovation, environmental responsibility, and ethical awareness among students. This alignment ensures that the learning framework not only enhances academic proficiency but also contributes to lifelong learning, sustainable development, and global citizenship the core essence of SDG 4.

Mapping of Courses offered across various programmes of Manav Rachna university with Vocational Skill Development in Alignment with SDG 4 – Quality Education

Sl. No	Course Title	Aligned SDGs	Vocational Skill Area	Relevance to SDG 4 (Quality Education)
1	Environmental Studies	SDG 13, SDG 11	Environmental Management & Sustainability Practices	Develops awareness and skills in sustainable living and eco-friendly practices.
2	User Interface-I (HTML5, CSS, JavaScript, jQuery)	SDG 9, SDG 11	Front-End Web Development	Builds digital literacy, design, and coding skills for employability in tech sectors.
3	Overview of Data Science & Machine Learning	SDG 9, SDG 11	Data Analytics & AI Applications	Equips learners with analytical and computational skills for data-driven jobs.
4.	Digital Product Engineering and Design Thinking	SDG 9, SDG 11	Product Design & Innovation	Encourages creative problem-solving and entrepreneurial design skills.
5.	Introduction to Information Security	SDG 9	Cybersecurity & Risk Management	Develops technical skills in securing data and systems.
6.	Cloud Computing	SDG 12, SDG 11	Cloud Architecture & IT Infrastructure	Provides technical expertise in scalable computing and remote data management.
7.	Basics of Electronics & Electrical Engineering	SDG 7, SDG 11	Electrical Systems & Circuit Design	Enhances practical engineering and troubleshooting skills.

8.	UHV (Universal Human Values)	SDG 16, SDG 3	Ethical Decision-Making & Professional Values	Strengthens moral reasoning and workplace ethics.
9.	Agile Software Development	SDG 9, SDG 11	Software Project Management	Promotes collaborative and adaptive software engineering skills.
10.	Python Programming	SDG 9, SDG 12	Programming & Automation	Builds computational thinking and coding expertise for diverse careers.
11.	Entrepreneurship	SDG 9, SDG 11	Business Development & Start-Up Management	Promotes job creation and entrepreneurial mindsets.
12.	Cyber Law / Law Relating to Intellectual Property Rights	SDG 16, SDG 10	Legal Literacy & Innovation Protection	Builds understanding of IPR, patents, and digital law.
13.	Machine Learning	SDG 9, SDG 11	Artificial Intelligence & Predictive Modeling	Strengthens skills in AI-based technology development.
14	E-Waste Management / Green Computing	SDG 13, SDG 15	Environmental Technology & Waste Recycling	Promotes sustainable vocational skills in technology reuse.
15.	Quantum Mechanics	SDG 4	Scientific Analysis & Research Methodology	Builds scientific aptitude and research-based technical competency.
16.	Thermodynamics	SDG 7	Energy Systems & Sustainability	Enhances practical understanding of energy conservation and green tech.
17.	Atmospheric Physics	SDG 11, SDG 13	Climate Studies & Environmental Science	Equips learners with skills for sustainable climate research.
18.	Professional Competency Modules (I–V, PG I–II)	SDG 4, SDG 9	Employability & Skill-based Training	Builds holistic vocational competencies, communication, and research skills.
19.	Scientific Research I & II	SDG 4	Experimental Design & Research Documentation	Promotes skill development in scientific inquiry and innovation.
20.	Synthesis and Characterization Techniques	SDG 6, SDG 7, SDG 9	Material Science & Laboratory Skills	Strengthens experimental and analytical technical abilities.

Sub Tab 3: Mapping of Projects of Faculty and Students with SDG 4 (Quality Education) and Vocational Training Skills (2023–24)

The following table highlights the innovative student projects undertaken during the academic sessions 2023–24, mapped in alignment with Sustainable Development Goal 4 (Quality Education). Each project demonstrates the application of theoretical knowledge into practical, skill-based learning experiences, reflecting the university’s commitment to fostering vocational competencies, technological proficiency, and experiential education.

Through initiatives ranging from AI-driven healthcare systems, IoT-based automation, and environmental monitoring to assistive technologies for differently-abled individuals, students have developed critical 21st-century skills such as problem-solving, innovation, teamwork, research orientation, and design thinking. These projects serve as platforms for applied learning, bridging the gap between academics and industry requirements while nurturing an ecosystem of innovation, entrepreneurship, and sustainability.

By mapping these projects with SDG 4, the institution ensures that learners not only acquire academic excellence but also gain employability-driven vocational skills, empowering them to contribute meaningfully to society and the global knowledge economy.

Year	Project Title	Vocational Training Skill Developed	Mapping with SDG 4 (Quality Education)
2023-24	Text to Speech	Programming, Speech Processing, Accessibility Tech	Promotes inclusive education for differently-abled learners through assistive technology.
2023-24	Attendance Monitoring System using Face Detection	Machine Learning, Python, Computer Vision	Encourages students to apply AI in educational management systems.
2023-24	Cataract Detection using Transfer Learning, CNN, and Autoencoders	Deep Learning, Healthcare AI, Image Analysis	Enhances technical literacy in AI for medical diagnostics.
2023-24	Carbon Footprint Calculator and Tracking System	Sustainability Analytics, Python, Data Visualization	Builds awareness and skills in sustainability education.
2023-24	Robotic Arm	Robotics, Hardware Programming, Automation	Provides hands-on learning in engineering and robotics applications.
2023-24	Tracker for Stolen Phone	Mobile App Development, Security Programming	Strengthens digital literacy and security-based problem-solving.

2023-24	Rice Image Classification	Data Science, Image Processing	Encourages application of AI in agricultural innovation.
2023-24	Dhanyotsmi	Entrepreneurship, Event Management	Fosters entrepreneurial and organizational skills.
2023-24	Currency Note Detector	Embedded Systems, Image Recognition	Promotes learning in hardware-software integration.
2023-24	Real-time Vehicle Tracking System	IoT, GPS Technology	Develops technical proficiency in real-time data systems.
2023-24	Freelancing Platform	Web Development, Digital Entrepreneurship	Encourages self-employment and skill-based online work.
2023-24	Alumni Association Platform	Database Management, Web Design	Promotes networking and institutional learning.
2023-24	Construction Monitoring using Image Analysis	AI/ML, Civil Tech Integration	Builds innovation capacity in infrastructure development.
2023-24	Deep Fake Detection	Machine Learning, Digital Forensics	Promotes ethical technology use and critical thinking.
2023-24	Learning App for Deaf and Mute	App Development, Sign Language AI	Supports inclusive learning through assistive tools.
2023-24	Career Counselling Programs	Guidance and Counselling, Research	Builds career awareness and decision-making skills.
2023-24	AI Chatbot for Justice Department	NLP, Public Administration	Promotes civic learning through AI application.
2023-24	Waste to Energy Recycling	Environmental Engineering, Sustainability	Encourages innovation in waste management and green learning.
2023-24	Farmers Disease Diagnostic Portal	AgriTech, AI, Web Development	Promotes vocational literacy for rural development.
2023-24	Annual Report Portal	Software Engineering, UI Design	Strengthens data organization and reporting skills.
2023-24	Online Chatbot Ticketing	Cloud Computing, Automation	Encourages innovation in customer service technology.

2023-24	Mentor Connect	Database Design, UI/UX	Promotes peer-learning and mentorship-based education.
2023-24	Cyber Triage Tool	Cybersecurity, Forensics	Builds capacity for digital safety and investigation.
2023-24	Mobile App for Direct Farmer Market	App Development, E-Commerce	Promotes market literacy and digital inclusion for farmers.
2023-24	Smart Education	EdTech Innovation	Strengthens pedagogical innovation and blended learning.
2023-24	Automated Solar Tracker	Renewable Energy Systems, IoT	Encourages sustainable energy learning.
2023-24	Fingerprint Door Lock	IoT, Embedded Systems	Enhances understanding of biometric technologies.
2023-24	Smart Datesheet	Database Management, Automation	Promotes efficiency in academic scheduling.
2023-24	EcoSankalp: Green Solutions	Environmental AI, Carbon Analytics	Builds awareness on environmental sustainability.
2023-24	Four-Way Traffic Controller	Embedded Systems, Automation	Encourages STEM-based innovation for smart cities.
2023-24	Hand Gesture Controlled PC	Robotics, Sensor Technology	Encourages innovation in human-computer interaction.
2023-24	Hydroponic Farming using IoT	AgriTech, IoT	Promotes sustainable farming and green innovation.
2023-24	Train Accident Prevention System	Sensor Networks, Safety Engineering	Encourages safety innovation through technology.

2023-24	Smart Home Automation	IoT, Electrical Engineering	Builds technical literacy in home automation.
2023-24	AI Navigation for Visually Impaired	AI, Accessibility Design	Promotes inclusivity and innovation for special needs.
2023-24	Blood Resource Hub	Web Development, Healthcare Management	Strengthens healthcare resource management skills.
2023-24	Electric Bike Prototype	Mechanical Engineering, Design Thinking	Encourages innovation in sustainable transportation.
2023-24	Floor Cleaning Robot	Robotics, Automation	Promotes skill learning in mechatronics and AI.