INSTITUTIONAL DISTINCTIVENESS

RIMT UNIVERSITY

1. RIMT-STEM Education Program

To convert small idea to a big business every individual will be considered as innovator sometimes even simple *Jugaad* or quick fix to everyday problems have potential to target a larger market due to their simplicity and effectiveness, so to bring such bright minds for societal benefits as a frontend innovators as required for entrepreneurship and current demand of Indian economy.

Thus, RIMT University, driven by a strong inclination to assign the futuristic parameters to standards of education today, carries forward an illustrious record since its inception in 2015. Continuing on its path of growth for research & innovation, the university has gained an unprecedented pace by establishing new venture each year which includes RIMT-Department of Research Innovation & Incubation, RIMT-DESINNO Centre of Excellence, Bosch Laboratory, and so on. This legacy continues with the establishment of the STEM (Science, Technology, Engineering and Mathematics) Education Cell here in the University campus in the year 2017, an initiative to offer such a learning system that would not only enhance students' knowledge, skills, and confidence, but also nurture their love of learning year after year in multi-disciplinary approach. It was in the year 2018, that this pursuit was further ignited by the establishment of ATAL Tinkering Lab (ATL) in the University School up-to K-12, Om Prakash Bansal Modern School (OPBMS), in the university premise which is supported by NITI Aayog, the Government of India. Further the STEM education upgraded as STEAM Education in 2019 by including performing Arts, but to give this education as more valuable to the society and as per the views by Atal Tinkering Lab (ATL) is a central government of India initiative to create an environment of scientific temperament, innovation, creativity amongst Indian students. It is a step towards a new India that will embrace and encourage novel and innovative ideas and inventions. Similarly, Atal Innovation Mission Background NITI Aayog's flagship program, Atal Innovation Mission (AIM) including Self-Employment and Talent Utilization (SETU) are Government of India's endeavor to promote a culture of innovation and entrepreneurship. The objective of these programs is to serve as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses and other self-employment activities, particularly in technology driven areas.

Vision

The RIMT-STEM Education Program is yet another milestone in our never-ending drive in quest for excellence – "The culmination of a long-standing dream to set up a benchmark for learning and innovation that not only reflects the finest standard for quality in elementary to secondary education in students' early years but also benefits them through employability, providing business perspectives, and meeting global market/industry challenges in the future. This aims at offering environment for freedom of thought, imagination, academic autonomy, multiculturalism, risk-taking abilities, empathy and sustainability for the holistic growth of future generations as well as welfare of the society as a whole".

Why

Through RIMT-STEM Education Program, the University strives to offer freedom to innovate the solution with the following objectives:

1. To nurture young innovators to ideas in areas of societal importance from early ages.
2. To develop design thinking process to spur creativity.
3. Opportunity for everyone to innovate, ideate and design solutions irrespective of their age.
4. Community oriented approach enabling innovative solutions through advance tinkering.
5. To design & transform their innovation from ideation to impactful solutions utilizing the optimum evolving technologies.
6. Partnership with local industries institutions in problem solving through innovative offering in terms of products and services.
7. To support economically or socially weaker sections such as poor family children or female children.
8. To regulate the inherent innovative culture among communities by creating curiosity for entrepreneurship.
9. Last but not the least, to frame a futuristic society with holistically developed citizens of the nation.

Where

RIMT University, located in Punjab's biggest steel manufacturing & fabrication hub – Mandi Gobindgarh, offers a number of benefits to its young stakeholders. In this region, thousands of steel rolling industries, furnaces and automotive units are operative. RIMT is also near to another two big industries: Cycle industry & Hosiery industry in Ludhiana (distant 40 Km). With the regular interaction among the mentioned domain industrialists, young minds get much aware of the needs of the industry, for instance, it has always come to the picture that industries are facing so many problems regarding the technical up-gradation, managerial skills (Six sigma etc), huge electricity consumption, pollution & control.

In this scenario, local talent can be easily and efficiently absorbed in the local market. However it gives rise to the biggest question that from where the local talent would be trained and become capable enough to answer the problems of local industry. And, the solution to these issues has been very well found by the RIMT University, way back in 2018, through its RIMT-STEM Education Program. Apart from this Punjab is the main pillar of agriculture bone so lot of new innovation can be commenced through RIMT's Department of Agricultural Sciences' capacity.

The problem arises from the covid-19 pandemic and to make India World's technology leader it is required to build an ecosystem for self-employability, creative approach unity in tandem with modern technologies; in order to help such professionals, students and researchers with diverse background to develop fusion system by molding traditional knowledge in modern context ensuring sustainability through adaptability.

What

The university under RIMT-STEM Education Program is providing following facilities & services to the budding innovators:

1. Makerspace (in the university) which consists of:
    - tinkering space
    - required infrastructure
    - R&D and testing labs
    - Access to RIMT-DESINNO CoE
    - Software and hardware solutions
    - Services such as legal, accounting, HR, IPR, etc.
    - Facilities such as internet connectivity, electricity, water, security, etc.
2. Equipment:
    - CNC Milling
    - Laser Engraver

- 3D Printer – Makerbot
- 3D Scanner
- I5 & i7 workstations
- Development Boards (like Raspberry Pi, Arduino, Lunchbox, ARM etc), 3D Printer, Soldering Station, Advance DSO and Function Generators, Lathe Operations, Welding Facilities , Surface Testing facility, architecture and fashion design facilities, PCB design facilities

3. Software:
    - PTC Creo
    - Rhino
    - Artec Studio
    - DevC/C++
4. Advanced Technologies
    - Python
    - Web technologies: HTML/DHTML/CSS/JavaScript
    - Embedded Systems & Programming
    - Arduino Programming
    - Artificial Intelligence, Machine Learning, Internet of things,
    - APP Development
    - Circuit Designing
5. Ecosystem (in the region)
    - Surrounded with Industry Hubs (Steel Industry, Cycle Industry, Textile Industry and Agriculture Industry) to achieve business potential available for youngster or startups when trained in a professional way.

How

The university under RIMT-STEM Education Program follows hybrid approach for learning, offers services to all its stakeholders ranging from industry, academia, research and government institutions / research centres.

- The hands-on, comprehensive STEM topics have been planned to in a range of lengths and challenge levels. The curriculum-aligned lessons provide a variety of learning experiences that relate directly to students' real-life questions and observations, building their confidence and preparing them for life beyond school. Whether adapting classes in school or sending hands-on experiences home, the RIMT-STEM Program's hybrid lessons offer the flexibility to fit any instructional setup.
- Mentoring/Coaching, Technology Transfer, Training by highly qualified faculties. Since, RIMT University is running the core technical branches (Mechanical Engineering,

Agriculture, Electronics & Communication Engineering, Electrical Engineering and Computer Science Engineering), so expertise from various domains is being offered. Apart from the R&D and Incubation Centre, the university facilitates the research to the researchers and incubates to develop the prototype as commercialized product. The management studies team of RIMT always provides their valuable and good ROI business model to the investors and start-ups which lever ups the effort of the researchers, incubators and young entrepreneur.

Approach followed for RIMT-STEMEdu Program

- Understanding of different stages of product development: how to perform research, ideate, design, prototype, confirm and test
- Emphasis on project based concept learning
- Innovate & entrepreneurship
- reliability and sustainability in research & innovation so to serve communities
- human centric design development and critical design thinking
- cross-sector projects for co-learning and collaborations
- Blended learning and multidisciplinary approach
- Skill Course Certification
- Summer Schools/Workshops / Trainings / Boot-camps
- Industry Interaction through Pilot Projects
- Additive and Subtractive Manufacturing/3D Digital Modeling
- Ideathons, Hackathons, Business Model, Business Survey
- Business Space, Financials, Marketing Skills, Operations, Manpower etc
- Business and Technical fairs
- Startup funding awareness programs

Who

Faculty is the asset of an organization. The university is fortunate enough to have multidisciplinary, STEM expertise in the domain of Engineering, Architecture, Medicare, Agricultural Sciences, Arts & Design, Humanities & Applied Sciences to name a few.

- Major initiatives for the program initiation & conduct were taken by the Technical Head, Department of Research, Innovation & Incubation, Mr. Ravinder Pal Singh, who has been

awarded as the Mentor of Change (Punjab) for his mentoring services by the NITI AYOG, Government of India. Students consistently worked under his mentorship participated in a number of state/national/international competitions and achieved many milestones. Also the OPBMS School won ATL School of the month title more than ten times under the supervision of RIMT-DRI.

Focus Areas/Sectors

The STEM Education Program is working on the following areas:

a. Agriculture and Allied Fields
b. Electricity, New and Renewable Energy and Environmental sustainability
c. Additive Manufacturing (3D Printing)
d. 3D Scanning and 3D Modeling
e. IoT /AI, Embedded Systems and Sensor Technology
f. Electronics
g. Telecommunication
h. Drone Technology
i. Bio Technology
j. Health and Pharmaceuticals

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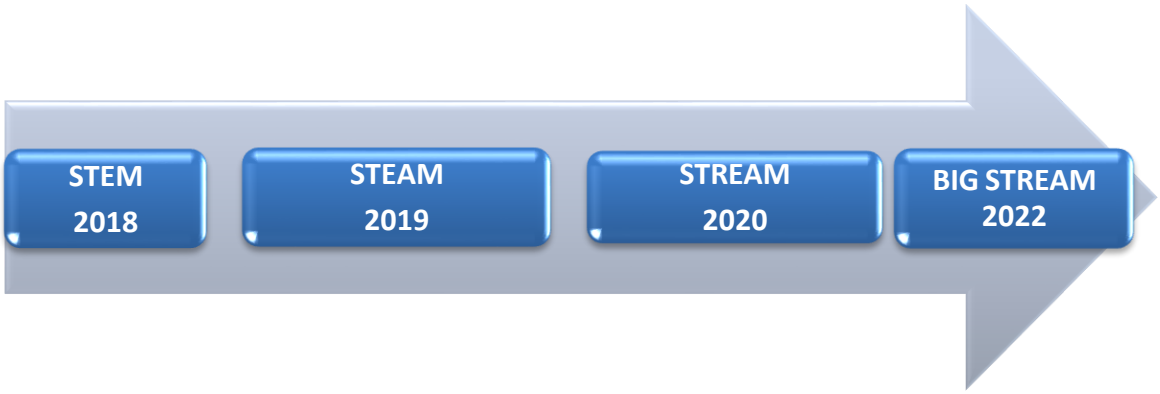
RIMT STEM to BIG STREAM Evolution



STEM: Science, Technology, Engineering and Mathematics

STEAM: Science, Technology, Engineering, Arts and Mathematics

STREAM: Science, Technology, Research, Engineering, Arts and Mathematics

BIG STREAM: Business Innovation Globally through STREAM

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2. Department of Research, Innovation & Incubation (RIMT-DRI)

Department of Research, Innovation & Incubation (RIMT-DRI) has been established for refining high-quality scientific research. It is an essential prerequisite for producing fruitful applications. The objective of Department of Research & Innovation (DRI) initiatives undertaken by RIMT University is to promote the creation of new projects/products in various applications with societal impact of education, building research careers, internationalization of mankind skills, support to strengthen the knowledge foundation through research, development and innovation with quality standards. Through the quality of innovations the R&D based activities accomplish the objectives of creating social welfare and technological innovations. To achieve the high quality research & innovation ambience the following steps are required to be undertaken.

RIMT DRI - Roles & Responsibilities

- The RIMT-DRI team will be accountable for the establishment and promotion of quality research, development and Innovations-Incubations, academic and training activities.
- Work towards the advancement and enhancement of the University's research capacities.
- To create awareness of current available funding/grants/scholarship with relevance in teaching and research oriented activities.
- To encourage all faculties to pursue research in their respective areas of expertise with project/product/start-up based initiatives.
- To foster the development of multi-disciplinary research endeavours across faculties and departments.
- To generate the university research funds for researchers and explore available research infrastructure funds& seeding grants under various Govt. schemes.
- To protect and commercialize the University's intellectual property and consultancy activities related to R&D including the assistance towards patent writing & publishing.
- To observe and enhance the quality of research program, projects and the research infrastructure within the University, including the training of research scholars.
- Fortnight meetings with the Heads of different academic departments regarding their valuable ideas, discussion w.r.t on-going projects by students/scholars.

- Regular monitoring for new grants available nationally/internationally and accordingly techno-commercial proposal design will be done with maximum feasibility checks.
- Regularly interaction with industries/research organizations (private/state govt. /centre govt.) and accordingly MoUs to be signed w.r.t different applicable activities in terms of R&D and innovations.
- RIMT-DRI shall always do work to create own products for commercialization under the banner "**Made-in-RIMT**".
- Promoting maximum participations of Faculty/Scholars/Students in R&D and innovation programmes nationally/internationally and make it confirm to get maximum opportunities with good SWOT analysis

Initiative of DRI

1. **Incubation Projects:** "Support For Entrepreneurial and Managerial Development of SMEs through Incubators" : under this scheme the interested incubatees can apply for the seed funding to develop their ideas, till date five incubatees received the seed funding worth 30.89 from MoMSME for following projects:
   - Braille Technology
   - Efficient Car
   - N-LED
   - Smart Cards
   - Integrated Power Systems
2. **DESINNO:** The DESINNO (DESIGN & INNOVATION) Centre of Excellence aims at establishing innovation capacities in India with the help of improved Design education considering the modern social, economic, and business environment.

   For more information click on: https://www.desinno.org.
   https://rimt.ac.in/desinno/

   Pilot Projects

   https://rimt.ac.in/pilot-projects/project1/
   https://rimt.ac.in/pilot-projects/project2/

3. In-house Training and Skill Courses:

Day by day industry is getting more competitive; professionals along with the qualification are required to be skilled with updated technologies. Those equipped with skills apart from basic qualification are more readily absorbed by the industry and also they can ignite their entrepreneurship. With this visionary approach, RIMT-Department of Research, Innovation & Incubation (RIMT-DRI) in association with DESINNO International Centre of Excellence through its "SKILL DEVELOPMENT Trainings / Courses" is committing to emphasize on developments in various domains along with career aspects for the same.

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TRAINING SKILL COURSES @ YOUR OWN UNIVERSITY

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Department of Reserarch, Innovation & Incubation

Qualitative Commitment For Universe.....

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- PTC CREO
- RHINO 3D
- CNC Milling
- Laser Engraving
- 3D Printing
- 3D Scanning
- Artec Studio
- Internet of Things
- Artificial Intelligence
- Coding – (C, Embedded C, Python/R, Julia)
- Embedded Systems: Arduino / Raspberry Pi / ARM/ TI
- Assistance for: IPR / Patents / Copyrights
- Preparation for : Codathon, Ideathon , Hackathon ,

Business Plan, Elevation Pitches, Entrepreneurship

Tools sponsored under European cofunded Project DESINNO

Co-funded by the Erasmus+ Programme of the European Union

DESINNO

3D Scanner

3D Printer

CNC MILLING

LASER ENGRAVER

Turn your Skills into Dream Job

Get in touch with

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