

Student Innovation Clubs - STIC

Design Innovation Centre, IUST has initiated the formation of interdisciplinary student innovation clubs to provide a platform for both students and faculty for applying design thinking to everyday challenges. The Clubs are built with a vision that an interdisciplinary approach to such challenges will be more likely to yield innovation as it will bring together diverse expertise and perspectives to tackle real world problems.

The STIC consist of faculty members and students from various engineering disciplines of the School of Technology. A total of five clubs were formed in the first phase, the details of which are given below:

1. Autonomous Systems & Robotics Club (ARC):

Theme: The Club is centred on application of Autonomous Systems and Robotics for solutions to local problems with a special focus on developing assistive technologies for the special abled, the elderly and others in need.

The Club aims to lay emphasis on responsible design and innovation aligned with its mission to ensure that the transformative impact of Robotics and Autonomous System is properly assessed and conveyed.

The Club focuses on design and innovation around five core areas:

- Enabling Technologies
- Assistive Robotics
- Field Robotics
- Navigation & Control techniques for Autonomous Systems
- Haptics for special abled

The Club seeks undergraduate students with a passion for creative design, technical skill in coding, circuitry, mechanical design, and people seeking to branch out and learn new engineering skills and apply them to solve real world problems.

Aim: The Club seeks to provide IUST undergraduates with an opportunity to participate in exciting and educational projects with the objective of developing products for the benefit of the society, to compete in a variety of competitions, workshops, fests etc.

The Club would conduct frequent workshops, short-term courses, certificate courses in accordance with its theme as stated above. One such course has already been offered to first year students of Mechanical and Electrical engineering.

2. Rural and Green Innovation Club: Aiming to provide innovative solutions to problems in rural areas and develop innovative products within the context of environmental mindfulness.

Theme: Rural and Green Innovation Club aims to become a platform to turn promising ideas into practical solutions to challenges faced by the community in the sphere of renewable and sustainable energy. In this Club students would take part in technological and social innovations that will address the sustainable environment and renewable energy of the society..

Objectives:

- To identify the technological problems in rural areas and provide innovative solutions specifically aimed at improving standard of living.
- Develop innovative sustainable products within the context of environmental mindfulness.

3. Software Engineering Design Club: This club will focus on application of mathematics in design with software acting as a tool for realizing innovative ideas in this field, like in graphics design.

Theme: Software Engineering Design Club is here to encourage members (Students and Faculty) who have a passion for software development to build a strong community of users and developers in order to bring the benefits of software to the university community at large and to the general public of the state at large. The club focuses on the following activities:

- Design and build innovative mobile applications for the benefit of the students and faculty of IUST
- Learn, explore and implement simulation tools that are used in modern technology.
- Need based mobile application development for the local problems of the valley particularly for the problems related to the health sector.
- Organizing social activities and workshops for students and local community on emerging technologies like android development to allow members to learn more about the field as well as engage with fellow colleagues.

4. Foodatronics Club:

Theme: The club focuses on innovation and development around areas associated to:

- Pre-harvest to post-harvest handling.
- Sensor techniques.
- Efficient processing techniques.
- Quality control.

Objectives:

- To take an interdisciplinary approach to challenges faces in food adulteration.
- To back innovative and informative projects in instrument designing in the respective field.
- Incremental improvement and development of functional foods.
- To improve shelf stability and to enhance preservation techniques.
- Conduct workshops, short term courses, certificate course in accordance with the club theme.

5. MATCOM Club:

Theme: This club envisages working on known mathematical theories like “Theory of Probability”, “Theory of equations”, “Vector Analysis” and “Theory of Matrices” and use fundamental concepts from these theories to model textual data to visualize implementation of few of the operations as in vogue in these theories. This activity is aimed at introducing innovative measure in teaching mathematics and with an eye to remove inhibition vis-à-vis opting for mathematical sciences. The club focuses on design and innovation around following core areas.

- Reducing complexity in understand basic concepts of applied mathematics with intervention of technical equipment(s).
- Visualizing implementation to enhance learning of complex mathematical areas.
- Implementation of theoretical concepts on known data collections.
- Modelling data (Text) Using Matrices, Vectors to help understanding some known operations like searching, latency extraction etc. using theory of Probability and Vector analysis.

Objectives:

- Develop computer software, “Math Tutor” to help students understand few compulsory areas of Applied Mathematics.
- To remove widespread inhibition about taking mathematics for future studies by implanting theoretical concepts and visualize their implementation using computers.
- Engage student community by organizing workshops, short term courses, certificate courses suitable to the club theme.