

4 Years | Undergraduate Professional Program | Bachelor of Design

## B.Des. in Creative and Applied Computation



### FOR FURTHER INFORMATION

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### CREATIVE AND APPLIED COMPUTATION

**VISION:** Creative people have always manipulated materials to make interesting and engaging objects and artefacts. Extending the notion of material to include intangibles like computation leads to very different types of objects. The underlying computational principles are invariant and remain similar, while the objects built using computation as an ingredient cover a wide spectrum. Some of these are installations that interact, toys that intrigue and puzzle, apps that react based on the user's situation, health products that talk to an expert system and narratives that evolve.

### ELIGIBILITY

As per AICTE guidelines published on the admissions page of the Srishti Manipal website.

### MEDIUM OF INSTRUCTION

English; all our transactions and transcripts will be in English.

### DURATION

8 semesters (4 years); must be completed within 6 years from the start of the course of study.

### DESCRIPTION OF CURRICULUM COMPONENTS

**FOUNDATION STUDIES** introduces students to basic principles and tools of Art and Design through contextual studies and hands-on learning and is common to all courses.

**DISCIPLINARY STUDIOS** are learning spaces where students develop core disciplinary skills and knowledge, while navigating in a trans-disciplinary environment.

**WORKSHOPS** provide intense learning experiences in making and doing, across the different disciplines.

**GENERAL STUDIES** are designed to develop and broaden one's world view and sharpen critical thinking and communication skills.

**ELECTIVES** allow students to expand their skills, develop interests and provide opportunities for travel and exchange.

**ABILITY & SKILL ENHANCEMENT COURSES (AEC), (SEC)** include learning units that enable enrichment of knowledge specific to a discipline, or are skill-based and provide hands-on-training and competencies.

**CHARETTES** are end of semester challenges that allow students to apply their learning from the studios and workshops to participate in brief-driven, quick-fire design assignments.

**INTERIM** is an open elective that encourages exploration through an open-ended framework for learning by engaging with artistic practices. Contemporary artists are invited from all over the world to lead place-based projects.

**INTERNSHIP** in an art or design studio/ organization / industry provides students an opportunity to refine and apply their learning in a professional environment.

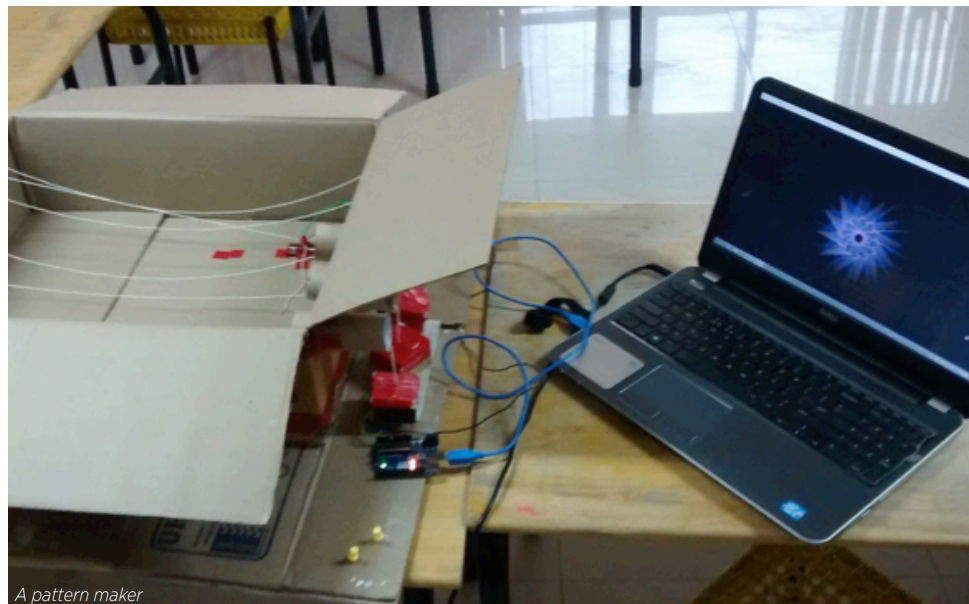
**TERM PAPER** allows the integration of theory and reflection with practice or artefact creation.

**PROJECT** involves the application, synthesis and demonstration of capabilities acquired, and is a qualifier to the thesis.

**THESIS PROJECT** in the final year is the synthesis and demonstration of capabilities acquired. The first semester includes a qualifying research project; the second a Final Thesis project which is interdisciplinary, within a current context.

**CO-CURRICULAR ACTIVITIES** provide opportunities for students to stay healthy as well as broaden their talents in various activities.

CURRICULUM COMPONENTS	SEMESTER
Generic Skills	1, 2
Contextual Enquiry	1, 2
Performance of Understanding	1, 2
Disciplinary Studios	3, 4, 5, 6
Design Charette	3, 4, 5, 6
Internship	Between 6 & 7
Project	7
Term Paper	7
Thesis	8
Exhibition	8
Open Electives	1, 2, 3, 4, 5, 6
Workshops	1, 2, 3, 4, 5, 6, 7
General Studies	1, 2, 3, 4, 5, 6, 7
Ability & Skill Enhancement Courses	1, 2, 3, 4, 5, 6
Co-Curricular Activities	1, 2, 3, 4, 5, 6



A pattern maker

## MAJOR AND MINOR

Navigation for students under the CBCS is provided through the choice of an academic major and minors. In addition to this, there is a choice of open electives, through General Studies and Interim.

An Academic Major typically consists of a Core Curriculum, with prescribed units of study. The Core Curriculum may comprise of the disciplinary studios listed below, which are indicative and not exhaustive. The choice of learning units taken as an academic major may also include similar disciplinary studios chosen from those listed on the prospectus of other specialised courses.

An Academic Minor is a student's second disciplinary choice and has its own prescribed units of study. A minor is chosen from learning units offered as prescribed as chosen from an interdisciplinary studies cluster other than the one in which their course is located.

## CURRICULUM COMPONENTS

(This list may be amended and is listed here as indicative of the program of study)

### SEMESTER 1 & 2 – ODD & EVEN

#### FOUNDATION STUDIES

(Common and Compulsory to All Specialisations)

##### Studio

Generic Skills  
Contextual Enquiry  
General Studies  
Interim (Learning Expeditions)

### SEMESTER 3 – ODD

#### DISCIPLINARY STUDIOS

##### Studio

SMCR2307	Creative Coding and Generative Art
SMCR2303	Fundamentals of Statistics and Exploratory Data Analysis

##### Workshops

SMCR2313	Computational Approaches to Sound
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### SEMESTER 4 – EVEN

#### OPEN ELECTIVE – INTERIM

#### DISCIPLINARY STUDIOS

##### Studio

SMCR2304	Mathematical Experiments Using Code
SMCR2302	Developing Mobile Apps
SMCR2310	When Machines Learn

##### Workshops

SMCR2314	Working with 3D Graphics
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### SEMESTER 5 – ODD

#### DISCIPLINARY STUDIOS

##### Studio

SMCR2301	Programming Basics
SMCR2305	Making Objects Communicate
SMCR2309	Coding for the Web

##### Workshops

SMCR2311	Working with 2D Graphics
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### SEMESTER 6 – EVEN

#### OPEN ELECTIVE – INTERIM

#### DISCIPLINARY STUDIOS

##### Studio

SMCR2308	Physical Computing
SMCR2306	Data Visualisation

##### Workshops

SMCR2312	Extending Functionality - Scripting and API's
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### SEMESTER 7 – ODD

#### PRE-THESIS PROJECT

#### TERM PAPER

### SEMESTER 8 – EVEN

#### THESIS PROJECT

#### EXHIBITION

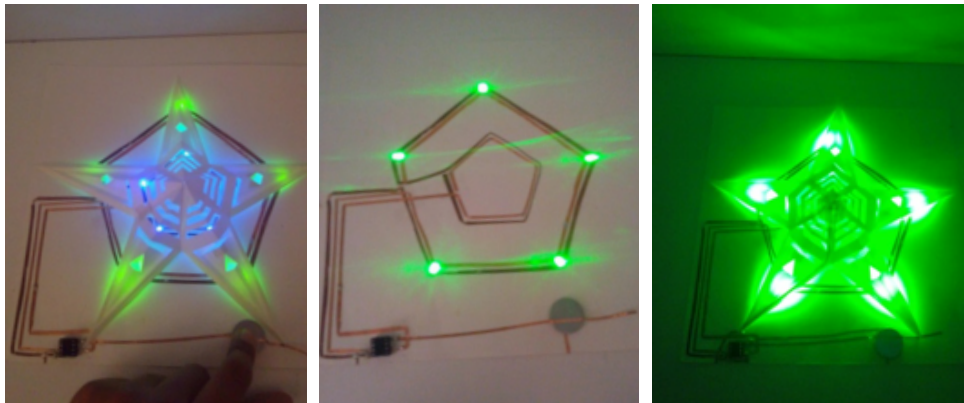
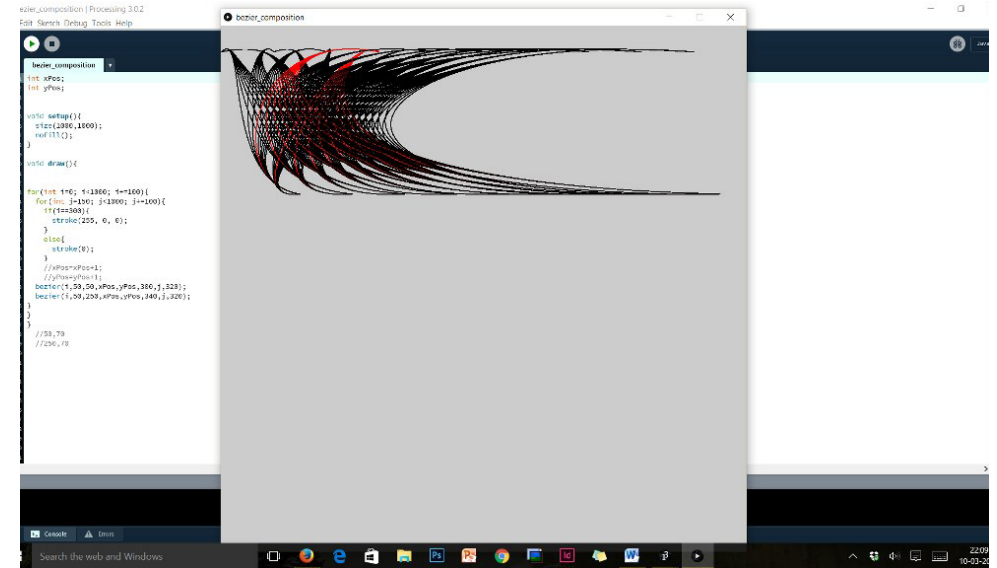
## THE SRISHTI EDGE

- » Build mobile and web apps that work for people by bringing together technology and design.
- » Apply physical computing in various arenas – wearables, environmental monitoring, smart objects, and digital fabrication (using laser cutters, 3D printers, vinyl cutters etc.)
- » Design & build objects and media using generative and mathematical processes.
- » Make data accessible, in places where it matters, using interactive and real-time visualisation.
- » Explore novel areas where machine-learning can be applied – experiment and build examples.

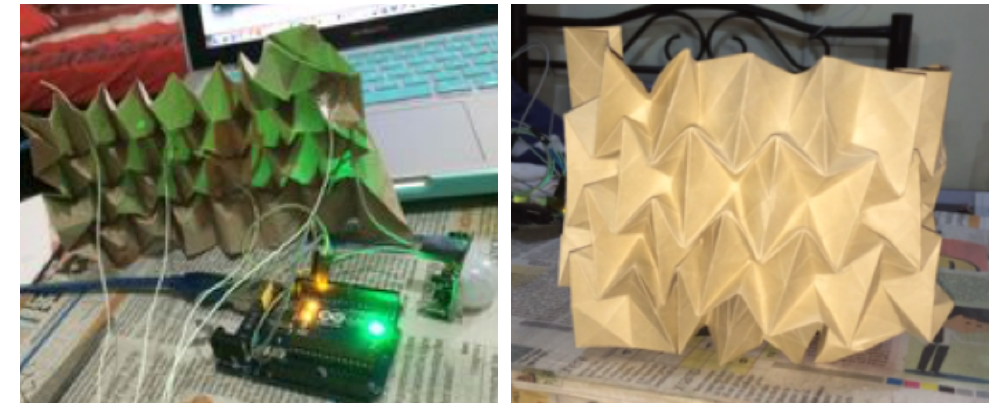
**UPON SUCCESSFUL COMPLETION OF THIS COURSE GRADUATES WILL HAVE DEVELOPED THE FOLLOWING CAPABILITIES:**

- » Identify ways in which processes can be represented using parameters and manipulate these algorithmically using computational tools
- » Learn emerging technologies and frameworks using online resources and documentation, and use them to build applications
- » Manipulate and represent media and data to gain insights into their structure
- » Build, customise or extend tools to execute specialised tasks
- » Combine the physical and digital using hardware and code to make objects capable to communicating and behaving in new ways
- » Apply computation in diverse contexts to add insight and value
- » Verify by testing that applications work as intended and find cases that they may fail in

Generative patterns



Interactive paper electronics



Making paper that beats

**For more information on the programs and courses**

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