

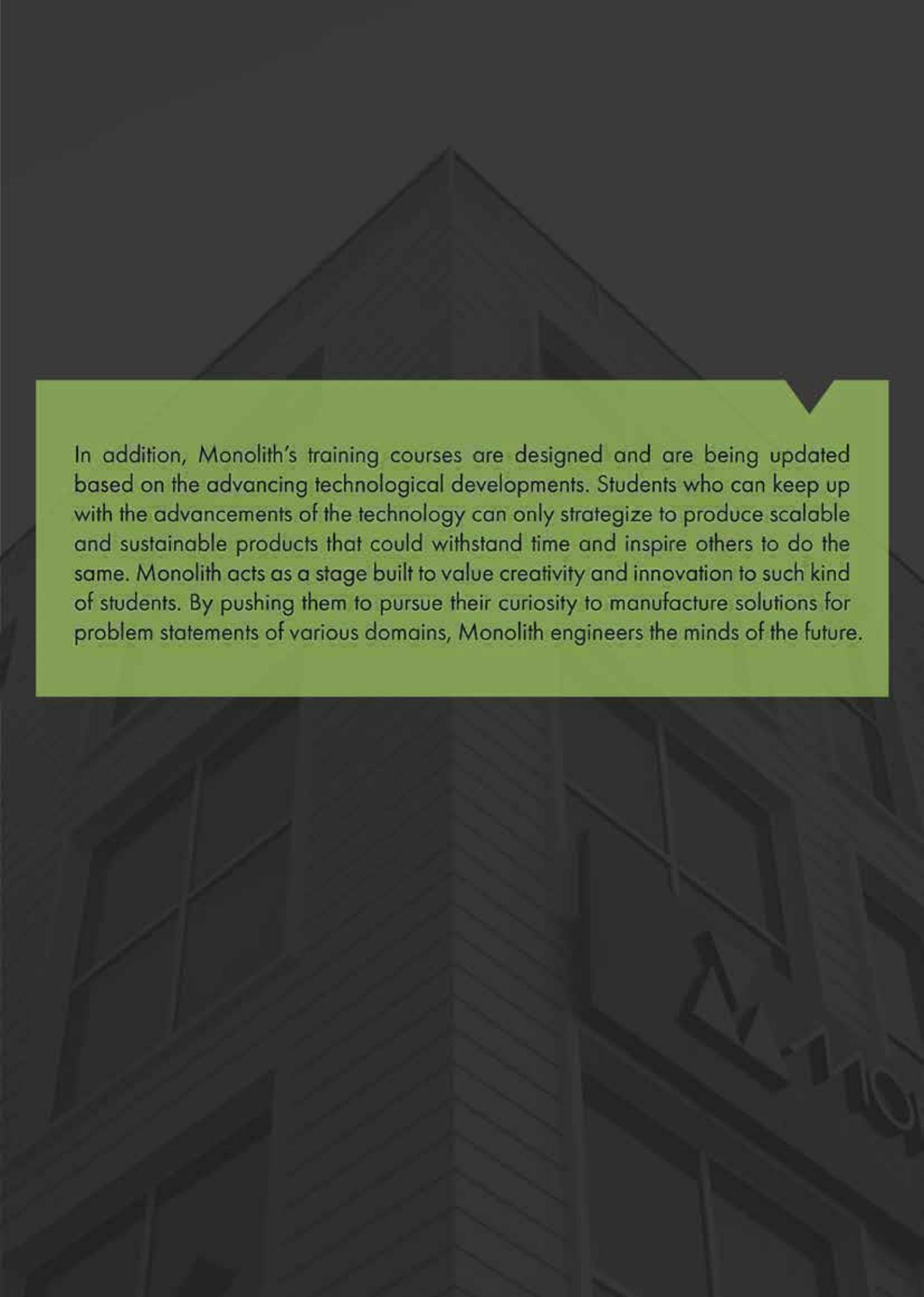


 **MONOLITH**
RESEARCH AND TRAINING LABS



WHO ARE WE ?

MONOLITH RESEARCH AND TRAINING LABS is the training arm of Monolith Technologies Private Limited, India. Spread across eight countries in the Asia Pacific and United Kingdom region, Monolith aims to act as a platform that is open to everyone who are looking to upskill and reskill themselves in order to create an ecosystem of adaptive and perceptive manpower that can successively identify and develop products to satisfy the ever-growing demands of the future media communication industry. By creating such a platform for all kinds of learners, from students who are piqued with interest to tech-enthusiasts who are looking for a way to enter the blooming world of creativity and technology, Monolith identifies its diversity in the student demography.



In addition, Monolith's training courses are designed and are being updated based on the advancing technological developments. Students who can keep up with the advancements of the technology can only strategize to produce scalable and sustainable products that could withstand time and inspire others to do the same. Monolith acts as a stage built to value creativity and innovation to such kind of students. By pushing them to pursue their curiosity to manufacture solutions for problem statements of various domains, Monolith engineers the minds of the future.

WE DIRECT YOUR DREAMS

#RoadToFuture



WE INSPIRE



WE MOTIVATE



WE EMPOWER



**Genius hour &
Learning in
groups**

**Assistance on
internship &
Guest Lectures
from Industry
Experts**

**Brainstorming
sessions & Soft
skill training**

**Unreal &
Toon Boom
Authorized
Instructors**

**1:2 ratio of
theory and
practical classes**

**Hands on
experience with
live projects.**

**State-Of-The-Art
Lab Facilities.**

ATC

Toon Boom
Authorized
Training Centre



PARTNERSHIP



aixr.



Toon Boom
Authorized
Training Centre



MEDIA & ENTERTAINMENT
SKILLS COUNCIL



EPIC GAMES

Unreal Engine is a very popular 3D Computer Graphics Game Engine developed by Epic Games. Known for its scalability, Unreal Engine can be used to produce a variety of content. With the help of Unreal Engine, several famous games have been produced including Fortnite. The Game Engine is versatile and has applications in Game Development, Advertising, Virtual Production, Virtual Testing, Automotive Product Design and Film Production.



Unreal Engine keeps updating itself to satiate its users which makes it a completely trust-worthy tool for its diverse applications. Unreal Engine proves to be extremely effective in terms of its sustainable solutions and could be the ultimate tool to design Next-gen products.



Monolith Research and Training Labs is an Unreal Authorised Training Centre accredited by Epic Games. The presence of Unreal Authorized Instructors in place at the Academy ensures the highest quality of training and teaching the students will be needing to continuously grow with the evolving Industry requirements.

TOON BOOM

Toon Boom is an Animation production and Storyboarding Software which can be employed to develop films, web animation, games, training applications et cetera. Toon Boom's Harmony is a tool that has high application in the Animation industry. It's built with pencil lines with textures, deformation tools, inverse kinematics, 2D-3D integration and 3D camera. Monolith is an Authorised Training Centre for Toon Boom which is a recognition given to assure the quality of instructor-led training that will be provided by the Training Centre.



MESC



Media & Entertainment Skills Council is an organization that is focused in producing a vibrant eco-system for quality vocational education and skill development. Monolith is recognised by MESC for the skill development workshops and courses that are provided by the academy.

AIXR

AIXR is one of the growing members of AR/VR community. They offer professional development, and connection in the industry. Monolith offers various courses that are verified and with excellent product delivery that can consequently be of great influence in the expanding AR/VR community.



CALL FOR ALL THE CURIOUS MINDS

The world has set a predestined path for everyone. There are conventions and guidelines to guide you through your life. We, on the other hand, urge you to defy them all. There are plenty of fish that swim around together as a school. But the one who swims against the tide lives an adventurous life. And when everyone tells you to pursue a solid career, there is one person who is focusing on what is moving their life, inch by inch, forward. That person is driven by curiosity, which by all means is the ultimate driving force.

And the technology of tomorrow needs those people. The current tech industry is seeking ways to outsource freelancers over hiring them permanently and has this concept called "quiet hiring". They need people who know themselves and what they are strong at. And we will provide the figures that can change your view.

It has been predicted that 2023 will determine the way technology is going to flow in the upcoming decade. The very hyped-up Metaverse will add \$5 trillion to the global economy by the end of 2030. AR and VR aren't the only fields of science and technology that have the potential to give the world a new makeover.

Creative fields hold a constant position in the ever-growing tech-world. The animation industry, be it 2D or 3D, is rapidly growing and conveniently sustaining itself among the other creative technology fields. The global animation market was valued at \$391 billion in 2021 and is projected to grow to over \$587 billion by 2030, making it one of the most reliable yet constantly multiplying fields in the world.

The gaming industry is and has always been a billion-dollar industry: Esports, mobile gaming, and XR gaming are some of the leading revenue collectors. The mobile gaming industry raised around \$103.5 billion in the year 2022, whereas PC and console games received around \$90 billion. It has been observed that new game development startups and indie developers arise afresh in the gaming kingdom every two months. So, it is safe to say that job opportunities in all the creative technology fields will always see a growth curve.

The fuss is all about creativity because, after producing tonnes of technical minds who operate over digits, the products manufactured at the end of the day will need designing and, obviously, selling. To gather around and convince the audience that they need the product, it will require some pretty strong 4C skills: communication, collaboration, creativity, and critical thinking.

New phases of the technology keep getting released. It's no wonder that curiosity is the ultimate force of life, which will yield creativity that gives way to products that elevate the living standards of humans. That is why we urge you to defy reality to find a persistent spot in this varying world of technology.

ADMISSION PROCESS



GET YOUR PROSPECTUS

Go through the details provided and opt for the course of interest.



ONE-ON-ONE COUNSELLING

Free counselling session to understand the current market demand and field of interest.



ELIGIBILITY CHECK AND SCREENING

Check eligibility for the desired course. The screening process allows us to determine the student's eligibility.



TECHNICAL DISCUSSION

Among the brains of the current leaders of the market, students will be guided through the specifications of selected course.



SUBMISSION OF APPLICATION

Important certifications that convey the student's educational background must be submitted with the necessary details filled in.

EVENTS

Monolith organises workshops, bootcamps, and industrial visits for Engineering Colleges and Arts & Science Colleges. Some of the notable colleges like Vels University, SRM, Saveetha University, Shasun College, St. Joseph College, Crescent University, Alpha College, DG Vaishnav, MOP Vaishnav have visited the academy's campus for Industrial Visit.

Free online events and workshops are held from time to time on stimulating topics that match the current Technological growth. And students from varying backgrounds attend these workshops to upskill and introduce themselves to contemporary technological trend.

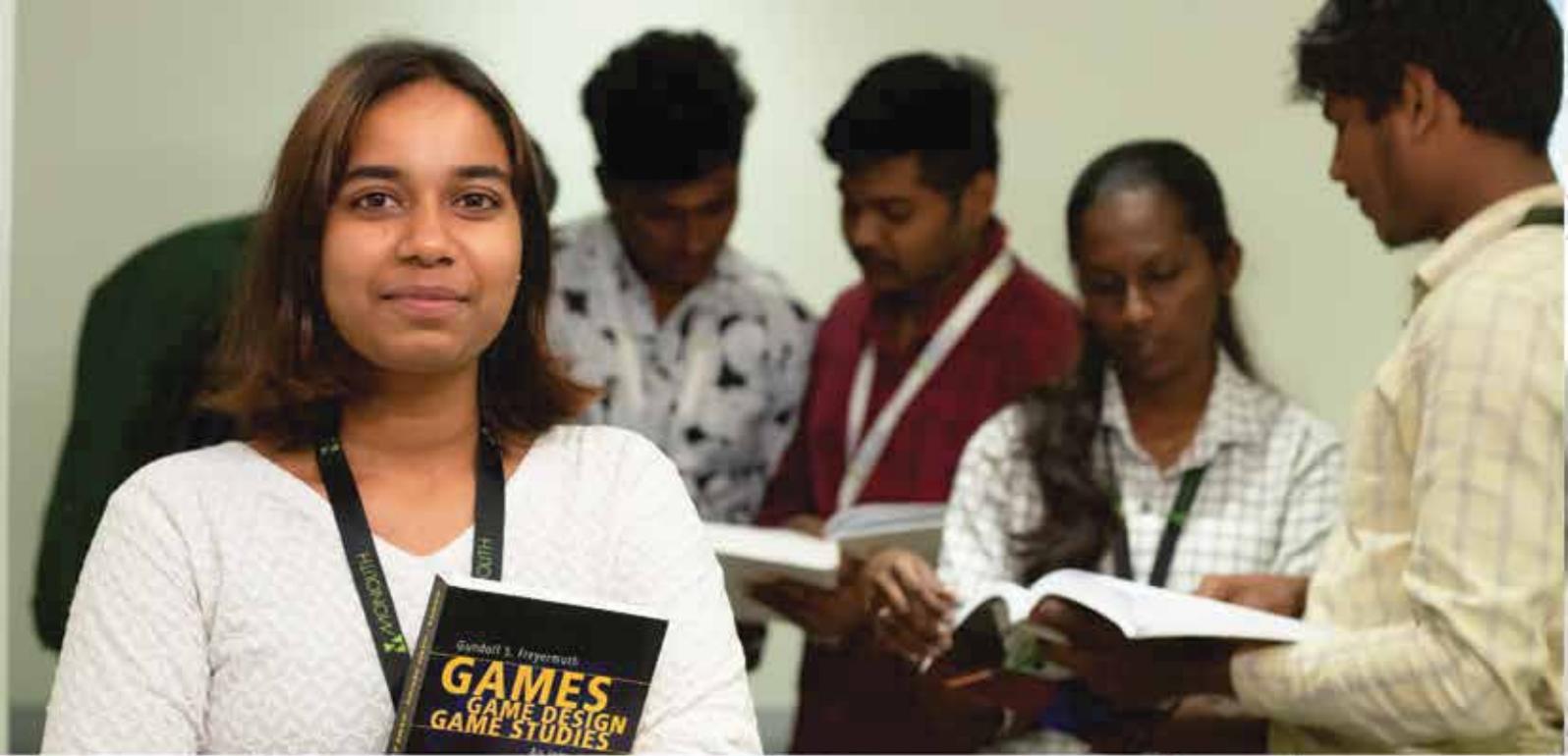
INFRASTRUCTURE

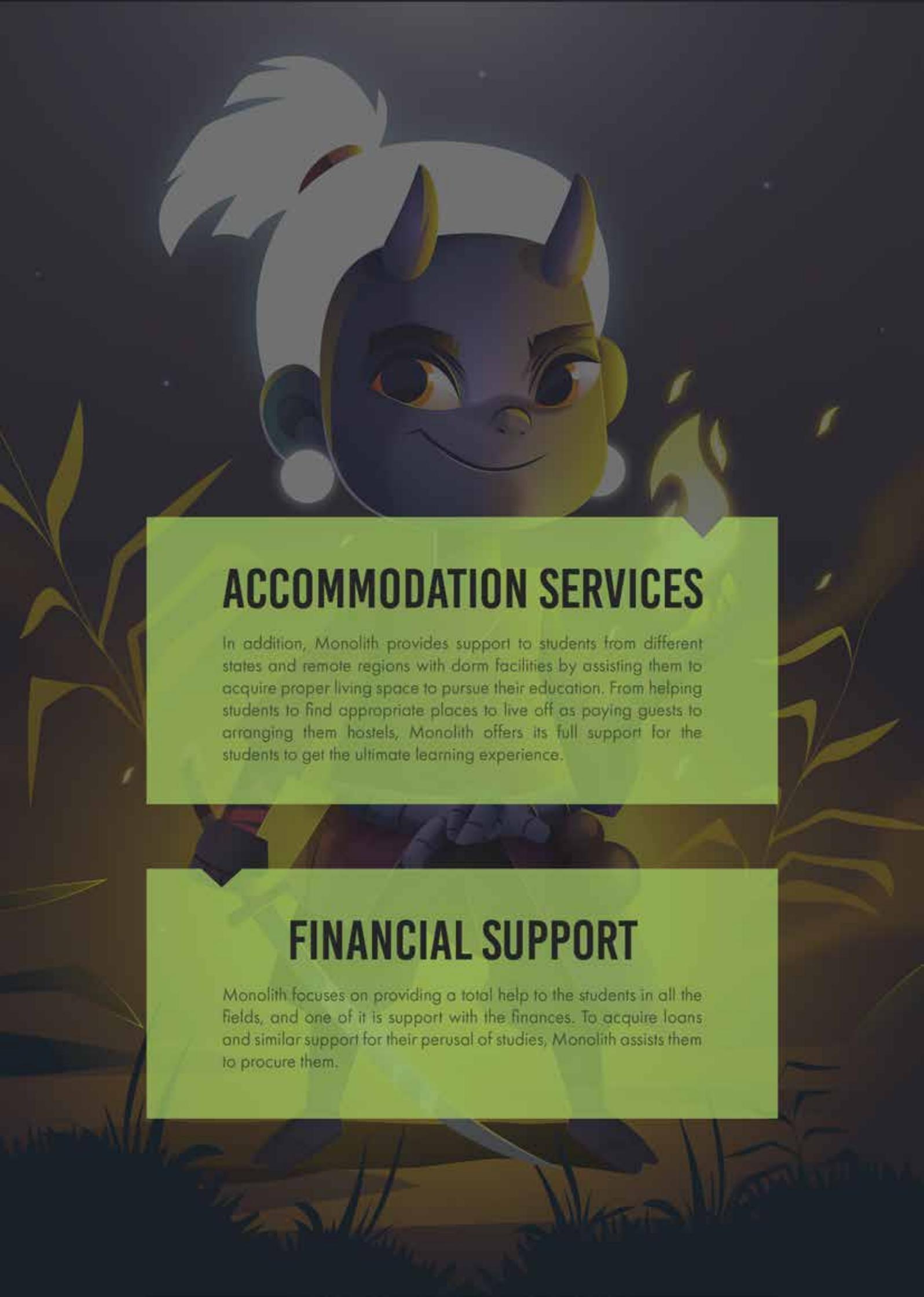
Monolith Academy's campus has highly defined and distinguished workspace and lab area. The structurization is sleek, and contemporary.

With state-of-the-art Immersive Lab, Monolith imparts wholistic wisdom through corresponding practical knowledge. An educational institution's organisation gives definition to the institution itself and aids in the process of teaching. Monolith, with its well-furnished study area endorses learning by being a stress-free environment with minimal interiors in the classrooms. Because of its aptly equipped lab and classroom area, Monolith encourages students to practice research and carry out their genius hours that's part of the teaching methodology during class hours. All this converges down together to the best transmission of knowledge to the students.



ROAD
TO
FUTURE





ACCOMMODATION SERVICES

In addition, Monolith provides support to students from different states and remote regions with dorm facilities by assisting them to acquire proper living space to pursue their education. From helping students to find appropriate places to live off as paying guests to arranging them hostels, Monolith offers its full support for the students to get the ultimate learning experience.

FINANCIAL SUPPORT

Monolith focuses on providing a total help to the students in all the fields, and one of it is support with the finances. To acquire loans and similar support for their perusal of studies, Monolith assists them to procure them.



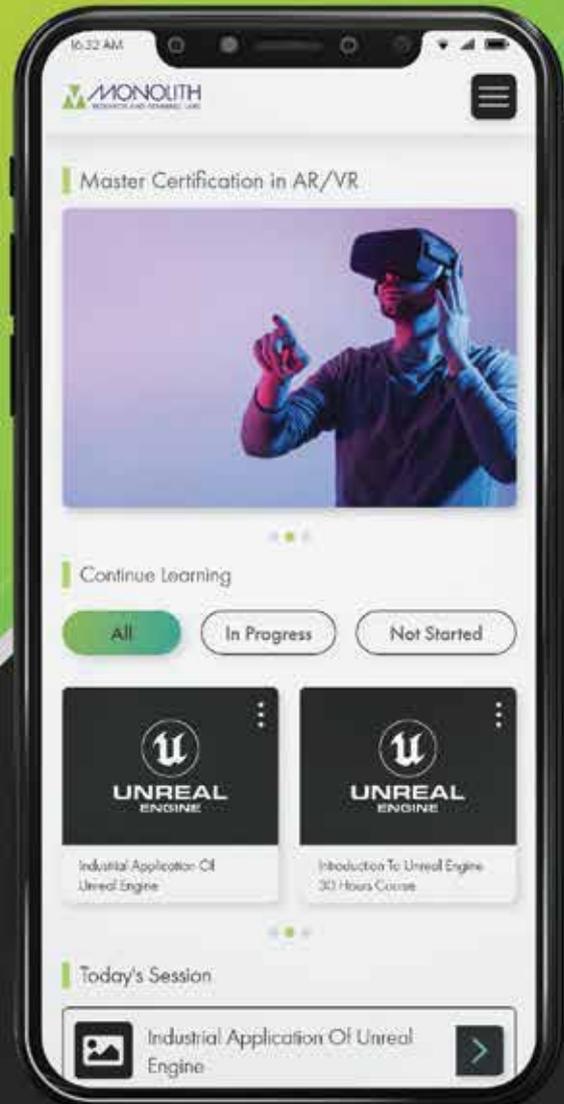
PLACEMENT SUPPORT

Students' judgement is green when they are young. Helping them understand and determine their desired area of interest is the first step in building a solid foundation for their career. Monolith assists them throughout the process and helps students in obtaining positions in the best companies. Students will gain industry experience through internships during the program. These beneficial internships enable them to gain a direct and accurate view of the industry, allowing them to progress to greater heights. With Monolith's huge list of clients, associates, and partners, one hundred per cent placement support is provided.

LEARNING MANAGEMENT SYSTEM

Learning Management Systems are getting highly popular nowadays.

Companies develop their own platforms to promote "Corporate training".



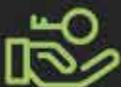
WHY LMS?

LMS plays a huge role in remote education for students who can't get access to conventional learning methods. They have positive retention effects and engagement among the audience as they're gamified and added with interactive elements, quizzes, scenario-based questions to elevate the learning experience.



IT IS EFFICIENT.

LMS is an efficient way to incorporate flexible and consistent learning to the students. Monolith provides Free Access for Lifetime through LMS.



IT IS ACCESSIBLE.

As Virtual Learning is gaining popularity because of its efficiency and accessibility, crowds are shifting towards that direction because of the ease of use.



AN ALL-INCLUSIVE SOLUTION.

LMS provides a solution to explore, learn and acquire knowledge on various discipline at the comfort of one's availability and desired location.

Monolith keeps updating the learning portal by continuously uploading educative articles and informative videos to encourage consistent learning as new phases of technology unfolds.

FLIPPED CLASSROOM

What if students did the “classroom” portion of their learning at home and their “homework” in the classroom? That is an simplified description of the flipped classroom approach, where students watch or read their lessons on computers at home and then complete assignments and do problem-solving exercises in class.

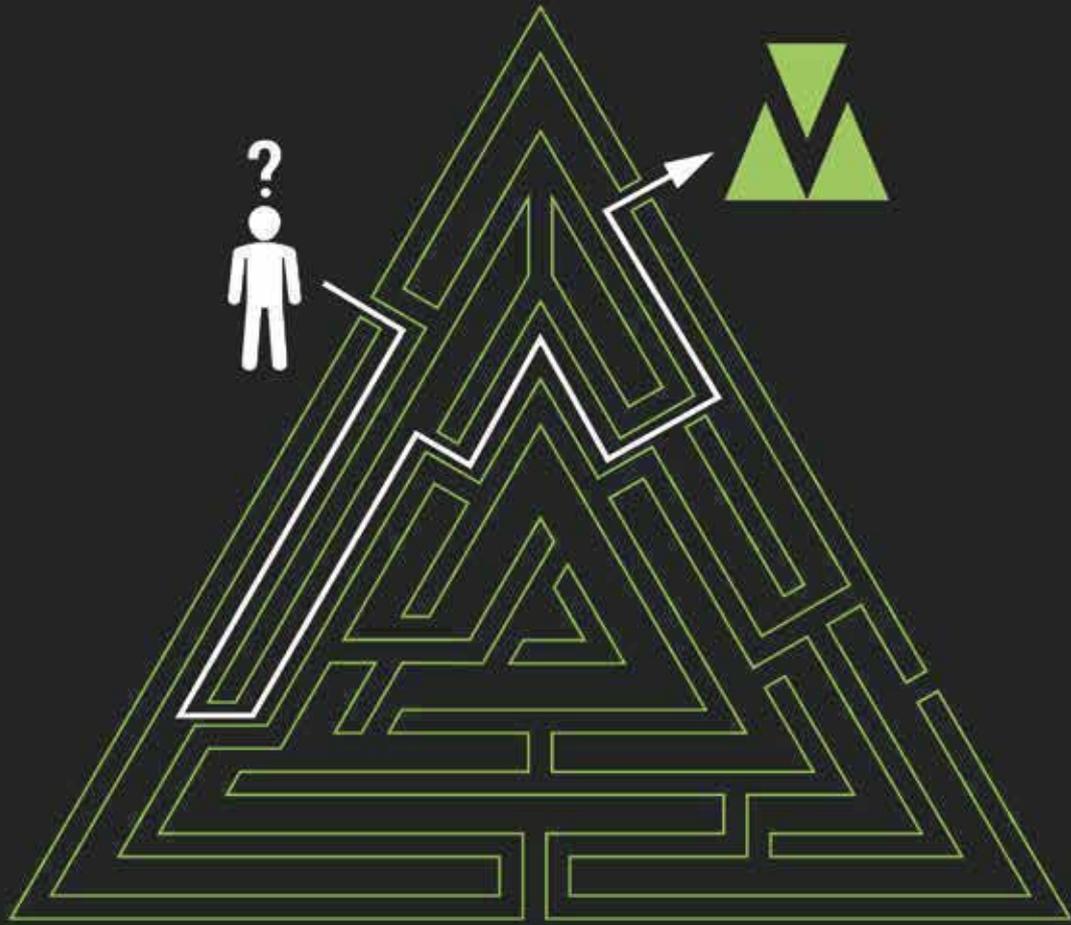
KINAESTHETIC LEARNING

In the kinaesthetic learning model, students perform hands-on physical activities rather than listening to lectures or watching demonstrations. Kinaesthetic learning values movement and creativity over technological skills and is most commonly used to augment traditional types of instruction.

GAMIFICATION

The basic objective development of gamification is to engage the target audience, create an interactive learning environment, and deliver training in any subject matter. In non-game environments like classroom, Monolith incorporates gaming features to enhance the learning experience. And also, it has been observed that game-based learning promotes greater retention of knowledge.





BUILDING GREATER PATHS FOR THE CURIOUS MINDS.



M. SC

CREATIVE MEDIA TECHNOLOGIES

COURSE OVERVIEW

With a Master's degree, students can specialize more and delve more thoroughly into a particular subject. If a student wants to advance in their work and needs specialized knowledge and skills, a postgraduate degree is the best option. PG is more focused and research-oriented. Students will gain professional qualifications to upskill in emerging and sustaining creative technology fields like extended reality (XR), animation, and gaming. The research segment of the program continuously strives to understand the current requirements of the industry, expose students to the current industry trends, and ensure that the students are well prepared to face the challenges of the industry. In order to improve the students' employability, the course will equip them with professional skills.

The digital and creative abilities of students will be developed through this degree and applied to a variety of media platforms and industries. The program's specially designed courses, which are taught by the subject matter experts, concentrate on gaming technologies, media production and web design, digital application development, and audiences, markets, and industries for creative media technology.

JOB OPPORTUNITIES

- Animator
- Rigging Artist
- Storyboard Artist
- UI / UX Designer
- Game Developer
- UI Developer
- Web Designer
- Technical Director
- AI Programmer
- VFX Artist
- XR Developer
- Full Stack Developer
- Game Engine Developer
- Composer
- FX Artist

SCOPE

Creative media technology blends in computing, web design, game development, animation and future technologies like XR and AI. According to experts, the metaverse will contribute \$5 trillion to the world economy and AI is expected to produce \$15.7 trillion, all by 2030. Add this to the fact that immersive experiences will subsequently become a part of daily routine and with the onset of the new media age, the sectors that come under creative media technology will see a tremendous growth and is predicted to create 85 million jobs making this industry's future very promising.

YEAR I

GRAPHIC DESIGN

OBJECTIVE

Develop the ability of design thinking to convert ideas into visuals. To provide knowledge and combine storytelling capabilities to develop designs that can be used for advertisements, product packaging, games, magazines and corporate reports. Understanding the types and appropriate placement of various elements in designing.

INDICATIVE CONTENT

- Color Theory
- Digital Publishing
- Elements of Graphic Design
- branding design
- Product Packaging
- Typography
- Brochure Design
- Print Advertisement

FUNDAMENTALS OF ART

OBJECTIVE

Develop students to visualize concepts through the information and practical expertise of observation drawing. To explore the mediums of Art and Develop concept arts - design diagrams which will effectively communicate design ideas.

INDICATIVE CONTENT

- Shapes & Forms
- Color Psychology
- Introduction to Anatomy
- Force Anatomy
- Framework of the Figure
- One Point Perspective
- Two Point Perspective
- Three Point Perspective
- Drawing 3D Shapes

DESIGN STUDY

OBJECTIVE

To explore the elements and principles of

visual language in design. Students will learn the fundamentals of designing and other basic concepts that help in the production of successful designs like color wheel, color theory and typography. Demonstrate the rudimental graphic elements used to study designs.

INDICATIVE CONTENT

- Design Fundamentals
- Color Theory
- Color Wheel
- Typography
- Graphics
- Vector graphics
- Raster graphics

SCRIPT WRITING & STORYBOARDING

OBJECTIVE

To provide a comprehensive introduction to scripting and storyboarding techniques. To understand the basic techniques of writing script out of a story. To understand the basic techniques of making storyboard out of a script. To explore different camera shots and transitions and study their impact.

INDICATIVE CONTENT

- Story writing
- Thumbnails
- Storyboarding
- Anatomy of the story
- Screenplay
- Camera shots
- Camera transition
- Scene transition

MODELLING & TEXTURING

OBJECTIVE

Develop an understanding of concepts, methods, and tools used in the production of generating imagery/images and encourage students to independently study and critically analyse the process of design and construct elements to be used in their specialized area of study. To extend students' use of software to build computer generated imagery/images.

INDICATIVE CONTENT

- State of Design
- Model Sheets
- Fundamentals of Tools
- Surface Modelling
- View Port
- Basics of Light
- Basics of Texture
- Texture Pipeline
- Unwrapping Techniques

PROGRAMMING FUNDAMENTALS

OBJECTIVE

To provide the underpinning knowledge of basic concepts of computers, programming and its application in creative media technologies. The module further trains the students to deliver problem solving skills.

INDICATIVE CONTENT

- Object Oriented Programming
- Data Types
- Variables
- Functions
- Arrays
- Polymorphism
- Virtual Functions
- File Handling
- STL

ADVANCED ART

OBJECTIVE

Develop a firm understanding of ideas, methods, and tools utilized in the method of pre-production for design and developing perspectives that match concept designs. To develop scaled model/prototype using different material and try out various experimental ways of applying in their specialized area.

INDICATIVE CONTENT

- Human Anatomy
- Animal Anatomy
- Skeletal System
- Muscular System
- Gesture Drawing
- Dynamic Sketching
- Concept Sketching

YEAR II

RIGGING & ANIMATION

OBJECTIVE

To develop an advanced understanding of concepts, methods, and tools used in the production of computer-generated objects and establish the capacity for autonomous learning through self-managed study, integrated research and reflective specialist practice. To develop an understanding of the principles and processes used to create successful output in chosen specialized area.

INDICATIVE CONTENT

- Motion Capture in Animation
- Principles of Animation
- Joints
- Constraints
- IK-FK switches
- Muscle System
- Motion Paths
- Local rotation access

CRYPTOGRAPHY & NETWORK SECURITY

OBJECTIVE

To understand basic cryptographic algorithms, message and web authentication and security issues. To identify information system requirements for both the parties such as client and server. To analyse the current legal issues towards information security.

INDICATIVE CONTENT

- Principles of Security
- Types of Security
- Network Security
- Cryptography
- Symmetric Key
- Asymmetric Key
- Authentication Code
- Wireless Security

AR & VR DEVELOPMENT

OBJECTIVE

To research various techniques for incorporating 3D objects and animations into interactive applications. To explore different methods to supplement and replicate the real world. Evaluate designs and creation of simulations for both augmented reality and virtual reality.

INDICATIVE CONTENT

- AR Core integration
- Plane tracking
- Hand tracking
- Face tracking
- Image tracking
- Transformations
- Color, Material Properties
- Video and Audio Source
- SFX and VFX

UI DEVELOPMENT

OBJECTIVE

To discover the fundamentals of client-side scripting. To explore different frameworks that help developers for quick development of web pages. To present students the various tools and methods available to build responsive and dynamic web pages by employing scripts by employing scripts.

INDICATIVE CONTENT

- Client-side scripting
- Server-side scripting
- Responsive Design
- Grid System
- Layouts
- Bootstraps
- Plugins
- Pagination
- Form Validation

GAME ENGINE

OBJECTIVE

To understand the interface, tools and techniques in correspondence with the specified game engine. To use and

develop interesting applications/simulations using the leading game engines in the market.

INDICATIVE CONTENT

- Profiler
- Namespaces
- Ray casting
- Actor
- Interior Scene
- Exterior Scene
- Lighting
- Blueprints
- AI
- Post Process Volume
- UMG
- Effects

DATA STRUCTURES & ALGORITHMS

OBJECTIVE

To deliver and demonstrate various algorithmic techniques for solving computational problems. To help students understand how data structures and algorithms influence the performance of programs. To understand basic concepts about trees, stacks and sorting techniques.

INDICATIVE CONTENT

- Recursive Algorithm
- Non-Recursive Algorithm
- AVL Trees
- Heap Sort
- Binary Search
- Greedy Technique
- Prim's Algorithm
- Backtracking
- Decision Trees

ARTIFICIAL INTELLIGENCE

OBJECTIVE

To deliver the various concepts of Artificial Intelligence and their incorporation in different applications/simulations.

This Artificial Intelligence module focuses to emphasize on AI algorithms, and techniques. To understand the future of AI and its integration with some of the important network of industries including science, gaming and engineering.

INDICATIVE CONTENT

- Characteristics of Intelligent Agents
- Types of AI
- Search Strategies
- Deterministic AI
- Non-Deterministic AI
- Path Finding Algorithm
- Rule Based AI
- Fuzzy Logic
- Optimal Decisions
- Future of AI

LIGHTING & RENDERING

OBJECTIVE

To study the processes and techniques for creating shaders and lighting rigs for CG environments. Techniques in UV mapping will be explored for both environments and character creation. Lighting will be approached from the foundation of traditional cinematography, then will be moved onto technical implementation. Additional topics, including ambient occlusion and global illumination, will also be covered.

INDICATIVE CONTENT

- Lighting Passes
- Multi-pass Rendering
- IES Lighting
- Raytracing
- Caustics & Photons
- Render Optimization
- Cinematic Cameras
- Adding textures and shaders
- Final Gathering

PYTHON PROGRAMMING

OBJECTIVE

Students will learn the syntax and semantics of Python Programming Language. Demonstrate the use of built-in functions to navigate the file system. To develop the ability to understand the difference between interactive mode and script mode. Students will get additional knowledge of lists, files and tuples of Python.

INDICATIVE CONTENT

- Conditional Loops
- Functions
- Exception Handling
- Classes
- Collections
- Modules
- Packages
- Lists
- Tuples
- Files

IoT

OBJECTIVE

To discover practical IoT topics like sensing, actuation, and communication. To gain knowledge on the creation of Internet of Things (IoT) prototypes, including sensors, actuators, processors, and communicators. The future will be filled with connected gadgets, as we currently live in a connected device era and the internet of Things will be the next wave the world is going to witness.

INDICATIVE CONTENT

- Introduction to IoT
- IoT Protocols
- Simulation Environment
- Sensor
- Actuators
- Basic Networking
- Cloud Platforms for IOT

METaverse

OBJECTIVE

Students will learn about 3D environments where people can communicate with each other, interact with virtual characters, and use avatars. From virtual music events to NFT-based businesses, the metaverse throws up a whole new universe of commercial opportunities. Students will learn the concepts of 3D world creation and applications of Metaverse in the current technological spin.

INDICATIVE CONTENT

- 3D world creation
- Virtual world for users
- 3D avatars for the users
- Convert the real-life photos and images to a sort of 3D images
- Experience of various motion tracking sensors
- Experience of interaction between the people
- Applications of Metaverse

BLOCKCHAIN TECHNOLOGY

OBJECTIVE

Students will learn about databases, and structured information and in addition to that, they will learn about the mechanism behind blockchain. Blockchain stores information in blocks that are chained together. Students will learn about nodes and will get knowledge about the storage of information and privacy in blockchain management.

INDICATIVE CONTENT

- Distributed database
- Information Storing
- Information Retrieval
- Security
- Privacy

LEVEL DESIGN

OBJECTIVE

To explore and understand various approaches for creating a level design for games. To develop the capability to visualize and incubate practical ideas for levels. To improvise level design blue print and level design document for games. To help students develop the ability to structure levels on 2D and 3D engines.

INDICATIVE CONTENT

- Level Ideation
- Isometric Art
- 2D Level Art & Design
- Pixel Art

- 2D Landscape painting
- Game Components
- Game Play
- Building a Level
- Level Mapping

ADVANCED COMPOSITING

OBJECTIVE

Explore and get a deeper understanding of advanced compositional techniques. To get a detailed review on camera controls, camera projection techniques. To discover various color grading and color correction methods.

INDICATIVE CONTENT

- 3D Interface Navigation
- Camera Controls
- Keying Method
- Tracking Method
- Color Grading
- Color Correction
- Premult
- Chroma Keying
- Planar Tracking

AUDIO & VIDEO EDITING

OBJECTIVE

To get an underpinning knowledge on editing principles. Understand and explore different editing techniques and camera rules of editing. To discover various editing and refining methods.

INDICATIVE CONTENT

- Interfaces
- Freezing
- In-Out cuts
- Markers
- Transitions
- Trimming
- Effects & Effects Control
- Audio Editing

DISSERTATION & VIVA VOCE

Help students develop their research skills and refine their research competencies using what they learned what they learned and refine their research competencies. This course aims to prepare students to write dissertation proposals and develop their knowledge of fundamental research designs, which requires them to make decisions about how to best match various research challenges with various research designs. Students will learn how to create a body of literature and potential investigative techniques related to their research topic. Writing the dissertation proposal is the main focus of this course, which also serves to refresh doctoral students on the fundamentals of research by emphasising conducting literature reviews, understanding theory, defining research problems and methods, collecting and analysing data, communicating findings, and using research to address issues in educational problems. Students should also be able to comprehend the goals, presumptions, and logic that underlie research procedures.





NEED FOR **CURIOUS** MINDS
IN THE CREATIVE TECHNOLOGY TREND.

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