



MEU LABS

LEARN IT DIFFERENT

01

What is **Meu Labs?**

Meu Labs is an open and collaborative learning environment designed to revolutionise STEAM education using project based learning to give students a unique learning experience. Our holistic ecosystem allows your child to explore multiple technologies, industry domains, and creative outlets to gradually understand their own strengths and passions.

We are not just another traditional classroom with exams, grades, or a fixed curriculum that frames unique and creative minds. We recreate a collaborative space where students work as teams to tackle complex and engaging projects that are designed and developed with specific learning outcomes in mind. Students acquire decision making and problem solving skills while scaffolding their theoretical understanding and building competencies in specific technology tools.

Under the guidance of nurturing facilitators who are professionals with a wealth of industry experience from around the world, we allow your child to explore their passions, professionalise their skills, and inspire them to create their own paths to success.

At Meu Labs, learning is not a tedious task but a fun game!

02

Why Meu Labs?

- Help your child become career ready from an early age.
- Follow a curriculum that is inspired by world class Institutions
Such as the Massachusetts Institute of Technology and Elon Musk's
Ad Astra.
- Build your child's personal portfolio to secure admission to world class
universities
- Work with world class Engineers, Scientists and Professionals.
- Allow your child to understand their own strengths and passions
through experiential learning



03 Our Team

Your child will obtain valuable exposure from working and learning with a highly educated and professional team of Engineers, Computer Scientists, Educators, and Mathematicians, who have studied in the best universities in the world such as the Massachusetts Institute of Technology, USA.

They bring with them the expertise of working in countries such as the United Kingdom, United States, Singapore, India, and Sri Lanka across diverse industries such as Education, Data Science & AI, Software Engineering, Banking & Finance, Agriculture & Biotechnology, and Renewable Energies.



04 Our Ecosystem

04

Our Ecosystem

Fundamentals



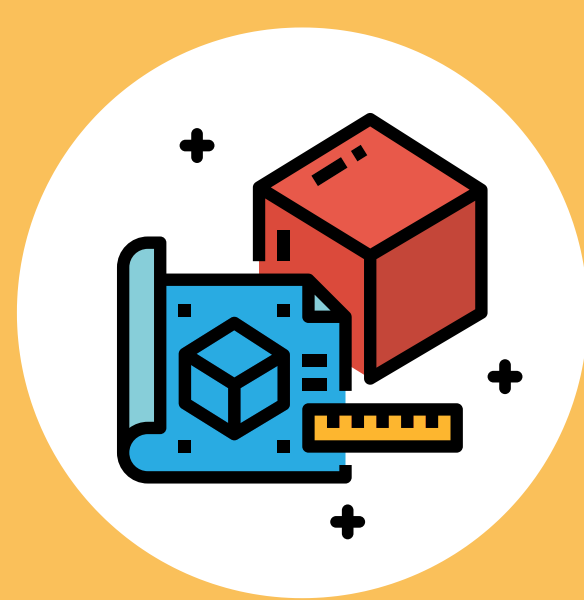
Knowledge Explorers

Learning Paths



Analytics

Focussed on Computer Science, Data Analytics, Economics & Finance, and Scientific Research.



Product Design

Focussed on Hands-on Making, Robotics, Electronics & IOT, and Manufacturing.



Creative Expression

Focussed on Writing, Graphic Design, Video Production, Music, Theatre, and Art.

Specialisations

- Academia
- Artificial Intelligence
- Astronomy
- Bioinformatics
- Computer Science
- Data Analytics
- Data Science & Mining
- Economics and Finance
- Networking and Cyber Security
- Software Engineering

- Aerospace Engineering
- Biotechnology
- Electronics & IOT
- Energy systems
- Industrial Manufacturing
- Micro Controller Designs
- Nano Engineering
- Product Design
- Robotics

- Craft arts
- Design
- Fine arts
- Multimedia Production
- Performing arts
- Writing and Communication

Personal Portfolio

Academic Mentorship

International University Network

Incubator Hub

SEED Fund/Investor Network

Talent Hub

Organisational Partners

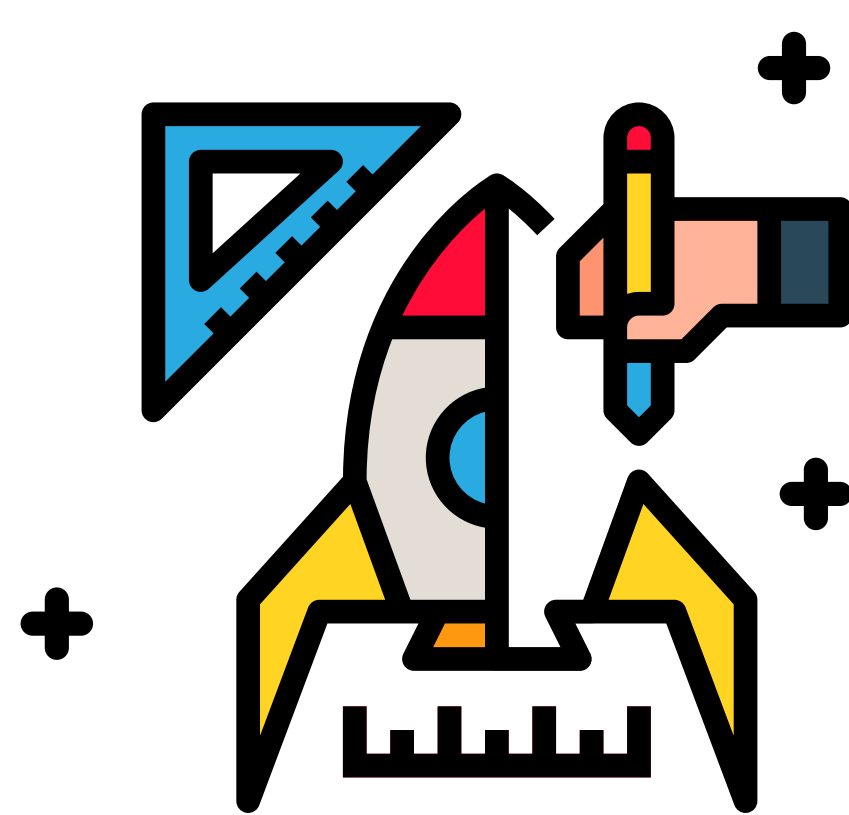
05 Knowledge Explorers

05

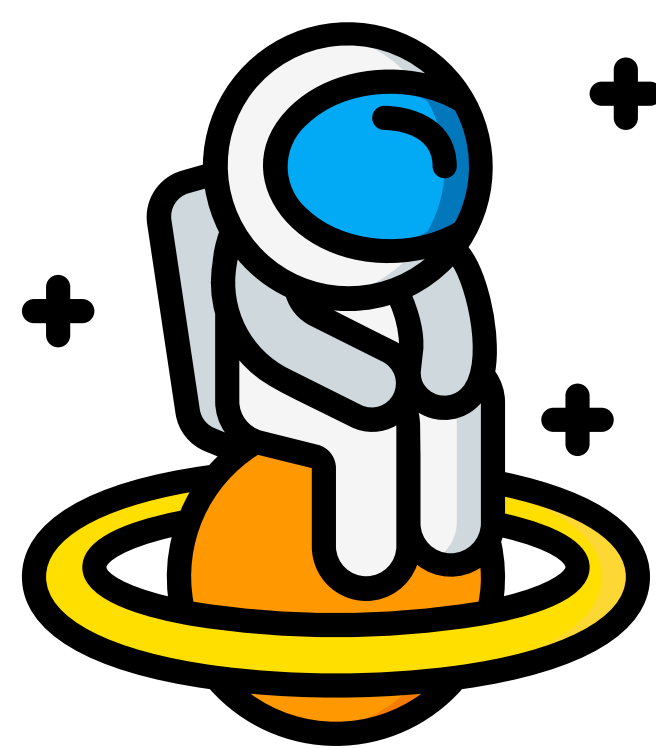
Knowledge Explorers

Flavour 01

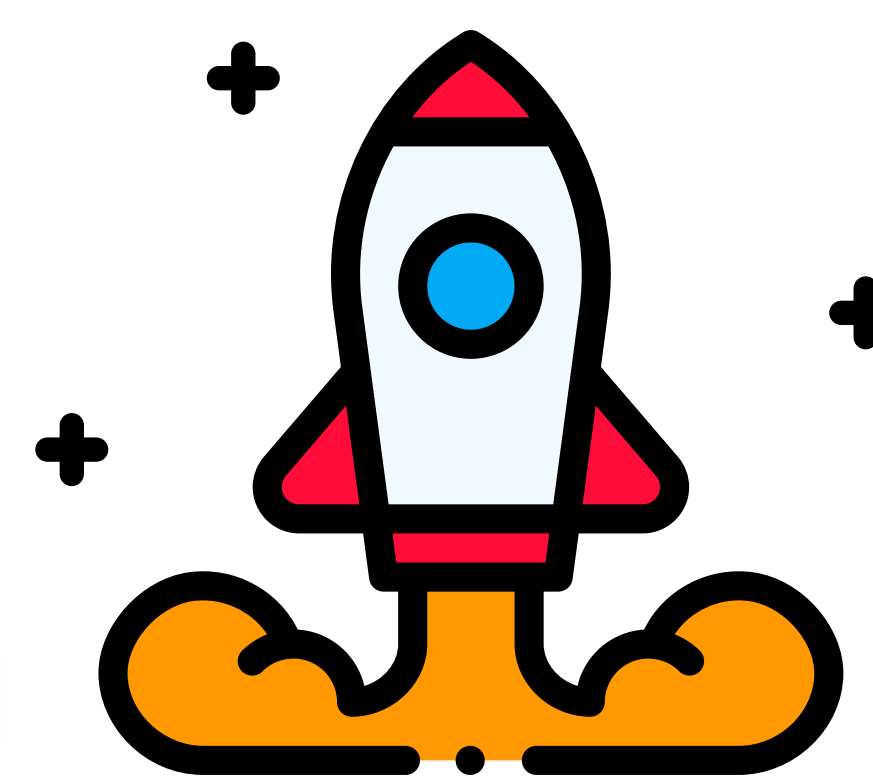
Knowledge Explorers solves a series of 6 puzzles on a journey to Mars.



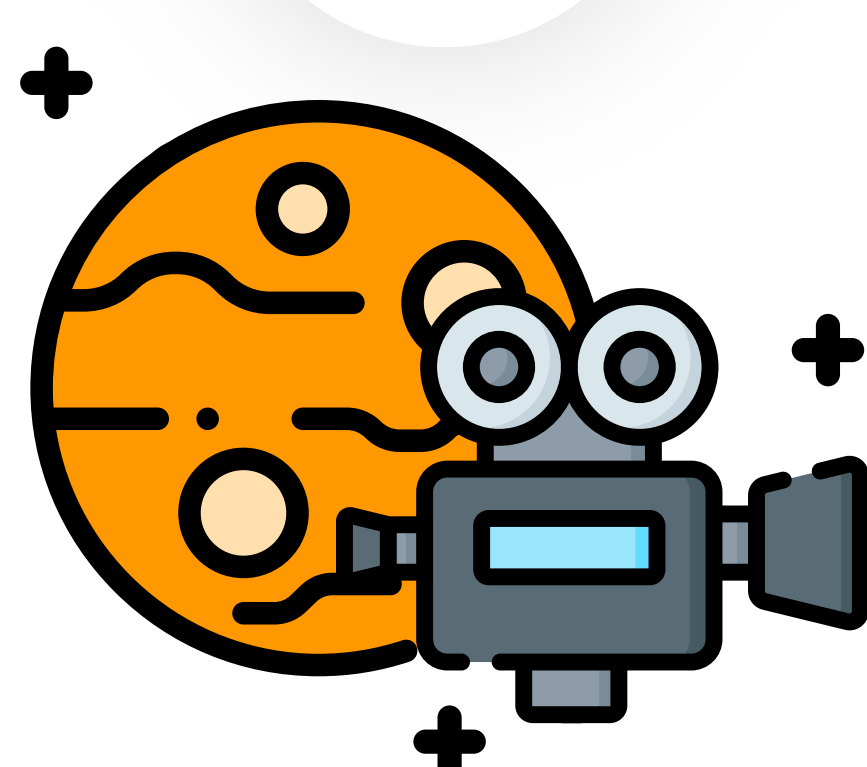
3D Rocket Design
TinkerCad



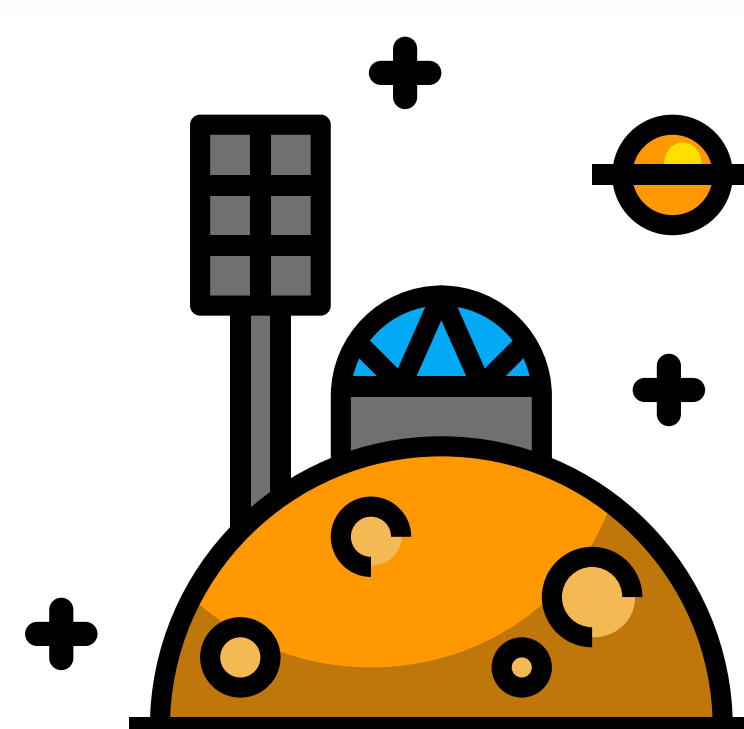
Crew Selection Simulation
A simulated game



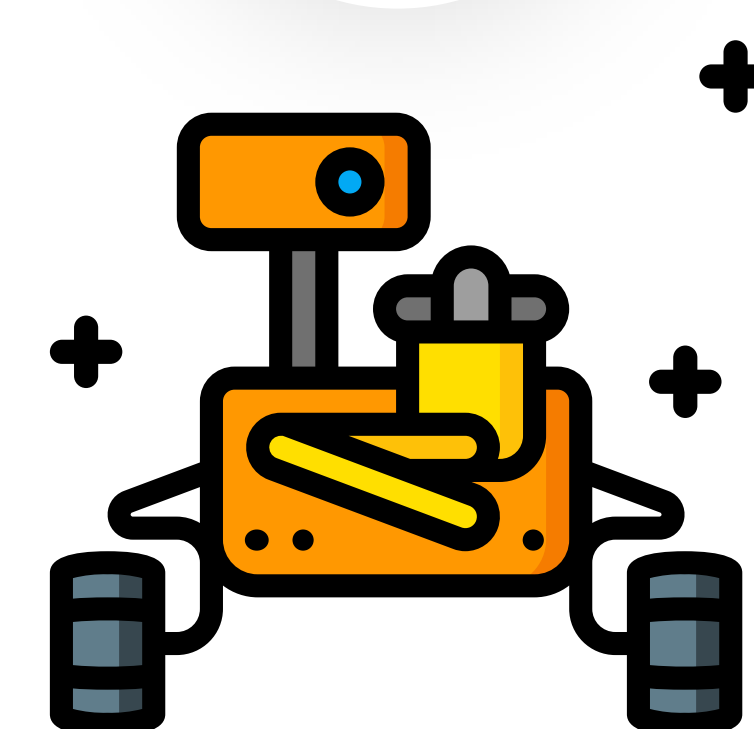
Rocket Navigation
Code.org, Scratch



Promotional Video Campaign
Plotagon, Davinci Resolve



Mars Colonisation Simulation
A simulated game



Mars Rover
Arduino, Magicbit, Fritzing

On completion of these 6 puzzles students will work on a personal project under the guidance of our Instructors.

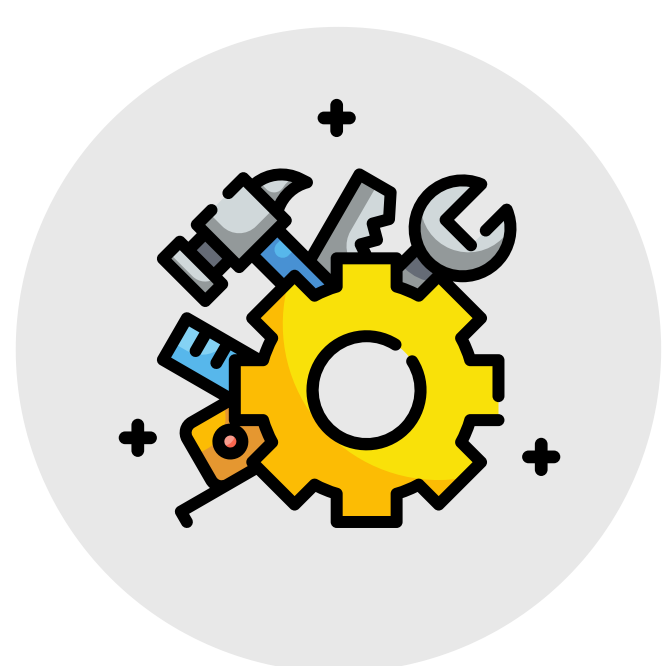
06 Class Structure

Meu Labs classes are designed to be student centric with a maximum class size of 20 heads where each student will be assigned to a team of 4. Individual attention is given to each student and a class will have a dedicated tutor who is always available to support and guide our young learners along the way.

Meu Labs classes will have 3 main session components



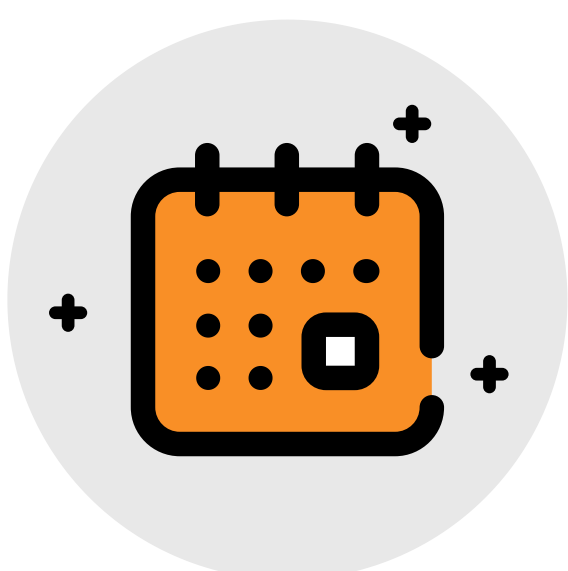
Tutorial Session – A structured two hour session designed to orient young learners with career focused technology tools



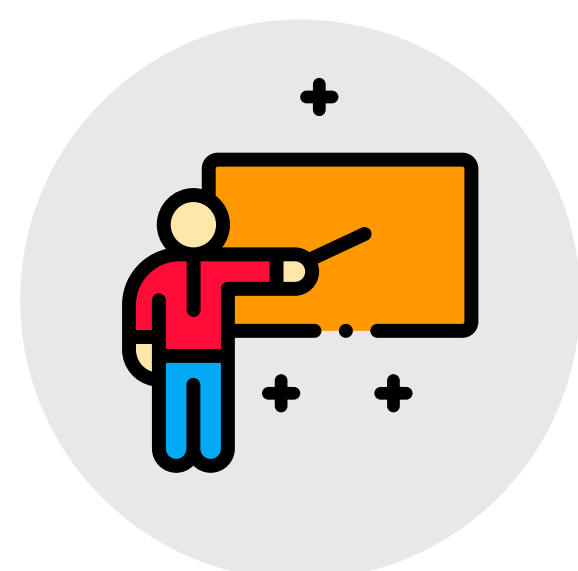
Lab Session – A semi-structured one hour workshop where students participate as a group to provide creative tech solutions to solve the weekly puzzle



Synthesis Spell – A pedagogical mechanism embedded in the tutorial and lab sessions to develop problem solving and creative thinking abilities



04 Months



32 Sessions



50 Hours



Personalised
Support



Teacher Student
Ratio
1 : 4

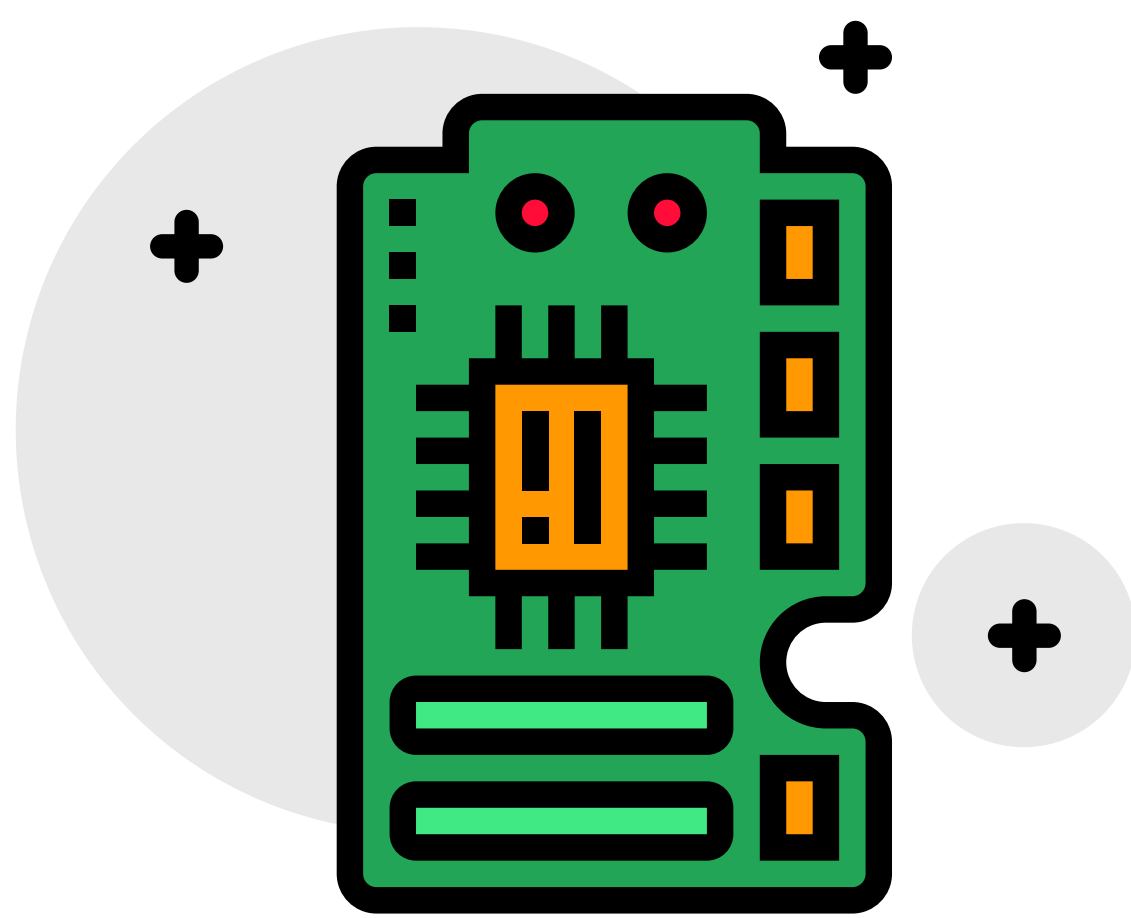
07

Targetted Skills



Analytical Skills

- Problem Definition
- Design Thinking
- Data driven Decision Making



Hardware Skills

- Basic Electronics
- Hands on Making
- Prototyping



Software Skills

- Programming concepts
- Arduino



Complimentary Skills

- Storytelling
- Negotiation
- Teamwork
- Time Management

08

Learning Outcomes

Puzzle	Objectives	Learning Outcomes
3D Rocket Design	Expose students to the basic principles of design thinking	<ul style="list-style-type: none">• Ability to follow a structured and methodical approach when solving a problem• Ability to empathize, define, ideate, prototype, and test a product• Ability to work as a team/lead a team through the design thinking process to develop a product
	Provide an overview of the product design process	<ul style="list-style-type: none">• Ability to understand basic product design considerations such as requirement definition, aesthetics, functionalities, modularity, product Performance, & quality• Ability to search on the internet for product benchmarking & inspirations• Follow a continuous improvement process to enhance product quality
	Allow students to use rudimentary CAD design tools	<ul style="list-style-type: none">• Ability to navigate through software platforms and identify the basic functionalities & features• Understand basic shapes, resizing, rotating, coloring, aligning, reshaping, and grouping of objects• Ability to work collaboratively on a CAD platform in developing a single product
	Give an overview of the physics behind moving objects	<ul style="list-style-type: none">• Understand the basics of aerodynamics, motion, resistive forces & drag coefficient• Understand the importance of FEA simulations in visualizing the physics of moving bodies

Puzzle	Objectives	Learning Outcomes
Rocket Navigation	Introduce basic concepts of programming	<ul style="list-style-type: none"> • Understand the concepts of programming thinking • Get a basic understanding of how programs communicate with machines • Understand basics of loops, nested loops, conditional statements, and operators • Exposure to the basic concepts of Object Oriented Programming
	Introduce block-based programming tools	<ul style="list-style-type: none"> • Ability to perform tasks with block-based programming tools such as Code.org & Scratch • Ability to modify layouts, backdrops, sprites, motion, looks, sounds, events, sensing, broadcasting messages, and controls of block-based programs
Crew Selection Simulation	Data-driven decision making	<ul style="list-style-type: none"> • Cognitive processing of textual information to identify necessary data to make informed decisions • Identify multiple objectives of a task, measure impact, prioritise, and map information at hand with end goals • Understand the nature of real world open-ended questions
	Teamwork in an online setting	<ul style="list-style-type: none"> • Ability to solve problems as a team, communicate, strategise, and build trust while taking calculated risks • Quickly adapt to unforeseen issues and come up with creative solutions on the go • Learn how to respect team members and other teams while engaging in fair competition
Video Animation Creation	Understand the importance of video creation	<ul style="list-style-type: none"> • Understand the importance of videos as a way of communication • Identify the evolution of videos and movie making • Understand different methods of consuming a video
	Digital storytelling through videos	<ul style="list-style-type: none"> • Plan a video design project using a storyboard • Ability to define characters, story plot, story setting, theme, and Styles • Ability to use storytelling techniques to market/sell your ideas/products

Puzzle	Objectives	Learning Outcomes
	Animate and edit videos	<ul style="list-style-type: none"> ● Ability to navigate through animation creation and video editing software ● Ability to create characters, add dialogues, voice recording & sound effects, edit emotions, edit camera & character placement, and add subtitles ● Ability to import media, edit, trim, snap, lock positions, link sections, add titles, manage zoom through video editing tools ● Export animated/edited videos in the desired resolution & format
Mars Rover	Ability to work with hardware tools	<ul style="list-style-type: none"> ● Understand the safety protocols of working with hardware/power tools ● Identify different electronic & mechanical components related to the project and their purpose ● Assemble hardware devices according to a manual
	Understand the basics of power electronics	<ul style="list-style-type: none"> ● Understand how energy flows from its source to relevant applications ● Work with batteries, motors, LEDs, jumper wires, switches, and breadboards ● Use of power electronics in complex applications
	Basics of microcontrollers	<ul style="list-style-type: none"> ● Understand the basics of microcontrollers including their purpose, functions, and types of microcontrollers ● Perform basic tasks from microcontrollers such as connecting to a computer, executing basic commands, connecting to external sensing, and output devices ● Connect microcontrollers with multiple electro-mechanical devices such as LEDs, motors etc to perform multiple tasks
	Basics of text-based programming	<ul style="list-style-type: none"> ● Understand the basics of text-based programming languages with Arduino ● Use Arduino IDE to program ● Identify the basics of software and hardware communication

Puzzle	Objectives	Learning Outcomes
Mars Colonization Simulation	Data-driven decision making	<ul style="list-style-type: none">● Cognitive processing of verbal information in a real-time setting to identify necessary data to make informed decisions● Identify multiple objectives of a task, measure impact, prioritise, and map information at hand with end goals● Understand the nature of real world open-ended questions
	Teamwork in an online setting	<ul style="list-style-type: none">● Ability to solve problems as a team, communicate, strategise, and build trust while taking calculated risks● Quickly adapt to unforeseen issues and come up with creative solutions on the go● Understand the basic principles of game theory by engaging in PvP strategy games● Learn how to respect team members and other teams while engaging in fair competition

09 Care Package

Care package sent through mail by week 06



Chassis Set



Magic Bit



Bread Board



Screw Driver



Jumper Wires



ESP - 32
Camera Module



Battery Holder
& Pack



Meu Labs
Stickers



Access to Knowledge Explorers Drive

- Installation Manuals
- Tutorial Recordings
- Session Materials

10 Student Testimonials



Akein Ruwanpathirana,
2021 August
★★★★★

If You Are Finding For A Place Where You Want To Be A Knowledge Explorer Or A Person Who Likes To Learn Things That Will Never Have Met You, Then This Is The Place! This Class Is Very Amazing, Enthusiastic, Unbelievable And Extraordinary!



Nicole Jacob,
2021 August
★★★★★

This was a really fun experience. I loved the session was always looking forward for it. It was fun and I learned a lot of new things. I highly recommend others to join this.



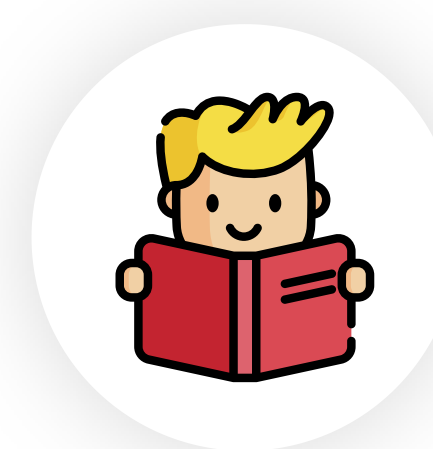
Sandalu Weerasooriya,
2021 August
★★★★★

I enjoyed all of the puzzles and all of those really helped in developing our team spirit. And the teachers constantly interact with us and reach out to us when we need help in making and developing things. Meu labs gave me a really good knowledge on coding, 3D designing etc. I encourage everyone to join with them and have fun..😊😊❤️



Pragarshan Prabakaran,
2021 August
★★★★★

I like meu labs especially when you work as a team, I had so much fun and also you can make your OWN mars rover at home. the people who conduct the class will send the parts to make it you can also control the rover with any device. I had a great time during these sessions😊. I highly recommend others to join this



Nejaan Siriwardena,
2021 August
★★★★★

I really enjoyed this course and I highly recommend this course to everyone. Thank you teachers.

Student testimonial video



11 Our Locations

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Singapore

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