WISDOM TO FLY

SWAYAM SIKSHA NIKETAN

Learn . Design . Build

LEARN ABOUT FUTURE TECHNOLOGY

For more information contact on:
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AEROMODELLING WORKSHOPS

- BASIC LEVEL
- INTERMEDIATE LEVEL
- ADVANCE LEVEL

BASIC LEVEL

(8+ years)

- Paper planes(Mama bug)
- Chuck Glider
- Rubber powered
- Catapult
- Orthinocopter

Kit Content

•Balsa wood/depron/thermocol/butter paper
•Epoxy Glue
•Working Tools*
•Other miscellaneous items

What is this workshop about?

If you want to learn about flying objects and don't know where to start, Sky Bharat Labs gives you just the right platform with a Basic level Planes.

Designing and fabricating a glider helps one understand the basic idea behind flight and the significance of various parts of the airplane. The workshop helps the participant understand aerodynamics, controls and stability in the simplest manner.

By tweaking slightly with various parts of the glider, one can actually make it perform some interesting aerobatics. This will help the participant understand the basic principles of flight

(3 Days Workshop)

Course Outcomes

•Build your own Planes

•Learn the Basics of Aircraft flight.

•Initiation into field of Aeronautical engineering through Aeromodelling.

•STEM based education provide

Course Structure and Topics Covered

• Day 1:Lecture on Understanding Aircraft Design - Duration 3 hours

In these modules the participants are introduced to

- Basic concepts of a glider
- Understanding of physics behind aircraft
- Important parts of an Aircraft
- Different systems of an aircraft
- Aerodynamics of a glider
- Stability of a glider
- Designing a glider

•Day 2:Designing and fabricating a glider - Duration 3 hours

- Concepts in design of a glider
- Implementing the design to construct a glider
- Efficiency of a glider

•Day 3:Launching Demo and Competition - Duration 2 hours

- Launching techniques of a glide

Take away kit also available during workshop:

Intermediate level RC Plane

(Give your wings to Fly)

The premier provider of experiential aeromodelling and drone education, empowering students and professionals of all ages to pursue their passions and achieve their full potential.

Ever wondered how it feels to design your own aircraft and see it soar into the sky? Then Take a Break and come to Sky Bharat Labs RC Aircraft Workshop

This workshop by Sky Bharat Labs gives you an opportunity to understand the theory behind the functioning of aircraft and aircraft design.. An interactive lecture session and design session helps you design your own aircraft

Course Overview

The RC Aircraft Building Course is made to offer Individuals a complete understanding as well as practical experience on how to size and construct remote-controlled airplanes. During the course, individuals will be taught the basics of aerodynamics, structural design, electronics, and control systems connected to building Trainer RC aircraft, F-22 Raptor Aircraft and Chuck glider. Choosing materials and assembling the parts will be explained step by step so that the learners can grasp the concept thoroughly.

- Eligibility: 12+ Years
- Duration: 3 to 4 days (2 hrs. +/day)
- Certification: Upon completing this course, participants will receive an Completion Certificate.

Course Highlights

•Design, Build & Test your first RC Aircraft from scratch!
•Learn all the introductory concepts of aeronautical engineering through aeromodelling
•Introduction to Design Algorithm of an aircraft
•Hands-on experience on the electronic and electrical instrumentation of an RC aircraft

Course Schedule:

Day 1:

Morning

Fundamentals of RC Aircraft:-

- **Introduction to Aeromodelling:** Begin your exploration into the world of aeromodelling, starting with the fundamentals of Aeromodelling.
- **Aerodynamics:** Dive deep into the principles of aerodynamics, including the forces of flight and Bernoulli's theorem, to understand how aircraft achieve lift and maintain stability.
- **Fundamentals of RC Aircraft:** Explore the principles of radio-controlled flight, including aerodynamics, propulsion, and control systems.

Afternoon

- **Design Planning:** Learn how to plan and conceptualize your RC aircraft, considering factors such as wing design, fuselage shape, and weight distribution.

Sizing of the aircraft

- Learn how to size the different types of aircraft based on their category
- Learn how to size wing, tail, fuselage
- Learn how to choose electronics for the model plane

Day 2:

Morning

Materials and Construction Techniques: Discover the various materials and construction techniques used in RC aircraft building, from balsa wood to foam and composite materials.

Afternoon

Hands-on Building: Put your design into action as you construct your RC aircraft under the guidance of experienced instructors. Learn how to assemble components, reinforce structures, and ensure proper alignment.

Day 3:

Morning

•**Assembly of RC Plane:** Learn how to assemble components, reinforce structures, and ensure proper alignment.

Afternoon

•**Integration of Electronics:** Learn how to install and configure the electronic components of your RC aircraft, including motors, servos, receivers, and batteries.

Day 4:

Morning

•**Design and Building RC Trainer/ F22 Raptor:** Overview of RC Trainer Design and Aerodynamics.

•Building the RC Trainer Model (step-by-step construction).

Afternoon

•**Flight Test:** During the flight test phase, skilled pilots will fly both the models constructed by the individual during the course, showcasing their performance and maneuverability.

Course Fees Structure or DIYs Kits:

Basic level: Chuck glider/Rubber powered/catapult

- Rs 350 to 600/students
- Provide kits of chuck glider to every registered students
- Max. strength of up to 50 students

Intermediate level: Rc Trainer Plane

- Rs 750/students or a team of 5 students Rs 3500/team
- Kit provides to each team

1. Fabrication material for fuselage or wings
2. Wing spar, control horns, push rod
3. Glue gun stick, Fevikik, Tape
4. Brushless motor, servomotor ,Propeller, ESC

Advance level: F22 Raptor or 3D plane

- Rs 1150/students or a team of 5 students Rs 5000/team
- Kit provides are

1. Fabrication material for fuselage or wings(advance material)
2. Wing spar, control horns, push rod
3. Glue gun stick, Fevikik, Tape
4. Brushless motor, servomotor ,Propeller, ESC

RC Pilot Training(Optional)

- Rs 3500/ student
- One week advance level training in our training centre

Take away kit: It consists of all above items including electronics and chuck glider kit, if you want transmitter , receiver and battery its total payable charge is taken at a time is Rs 12500

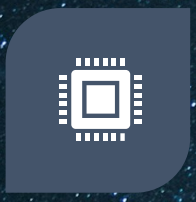
Course Outcomes

Comprehensive Understanding: By the end of the training program students will have full knowledge of aerodynamics principles, structural design ideas, electronics theory & control system concept application in remote-controlled airplanes.

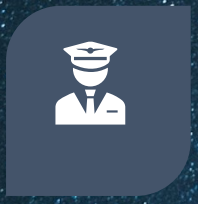
Practical Skills: Through this workshop, students would acquire hands-on experience in constructing different parts of an airplane using selected materials assembling them correctly, and identifying where a problem may have occurred during assembly procedures so they can rectify it without any difficulty.

Safety Awareness: The students will be aware of safety measures. This includes how to handle materials, tools, and electronics properly.

Community Involvement: After completing the course, students will be able to join the community of people who love RC airplanes



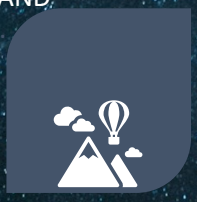
STEM EDUCATION: IT PROMOTES LEARNING IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS. IT INVOLVES PRINCIPLES OF PHYSICS, AERODYNAMICS, AND ENGINEERING.



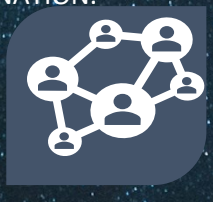
HAND-EYE COORDINATION: BUILDING AND FLYING MODEL AIRCRAFT IMPROVE FINE MOTOR SKILLS AND HAND-EYE COORDINATION.

PROBLEM SOLVING: IT ENCOURAGES CRITICAL THINKING AND PROBLEM-SOLVING SKILLS, ESPECIALLY WHEN TROUBLESHOOTING TECHNICAL ISSUES

CREATIVITY AND INNOVATION: DESIGNING AND CUSTOMIZING MODELS ALLOWS FOR CREATIVITY AND INNOVATION IN ENGINEERING AND AESTHETICS.



OUTDOOR ACTIVITY: FLYING MODELS OUTDOORS PROMOTES FRESH AIR, PHYSICAL ACTIVITY, AND APPRECIATION FOR NATURE.



COMMUNITY AND SOCIAL INTERACTION: IT PROVIDES OPPORTUNITIES FOR NETWORKING AND SOCIALIZING WITH FELLOW ENTHUSIASTS

THERAPEUTIC AND STRESS RELIEF: ENGAGING IN AEROMODELLING CAN BE RELAXING AND STRESS-RELIEVING.9