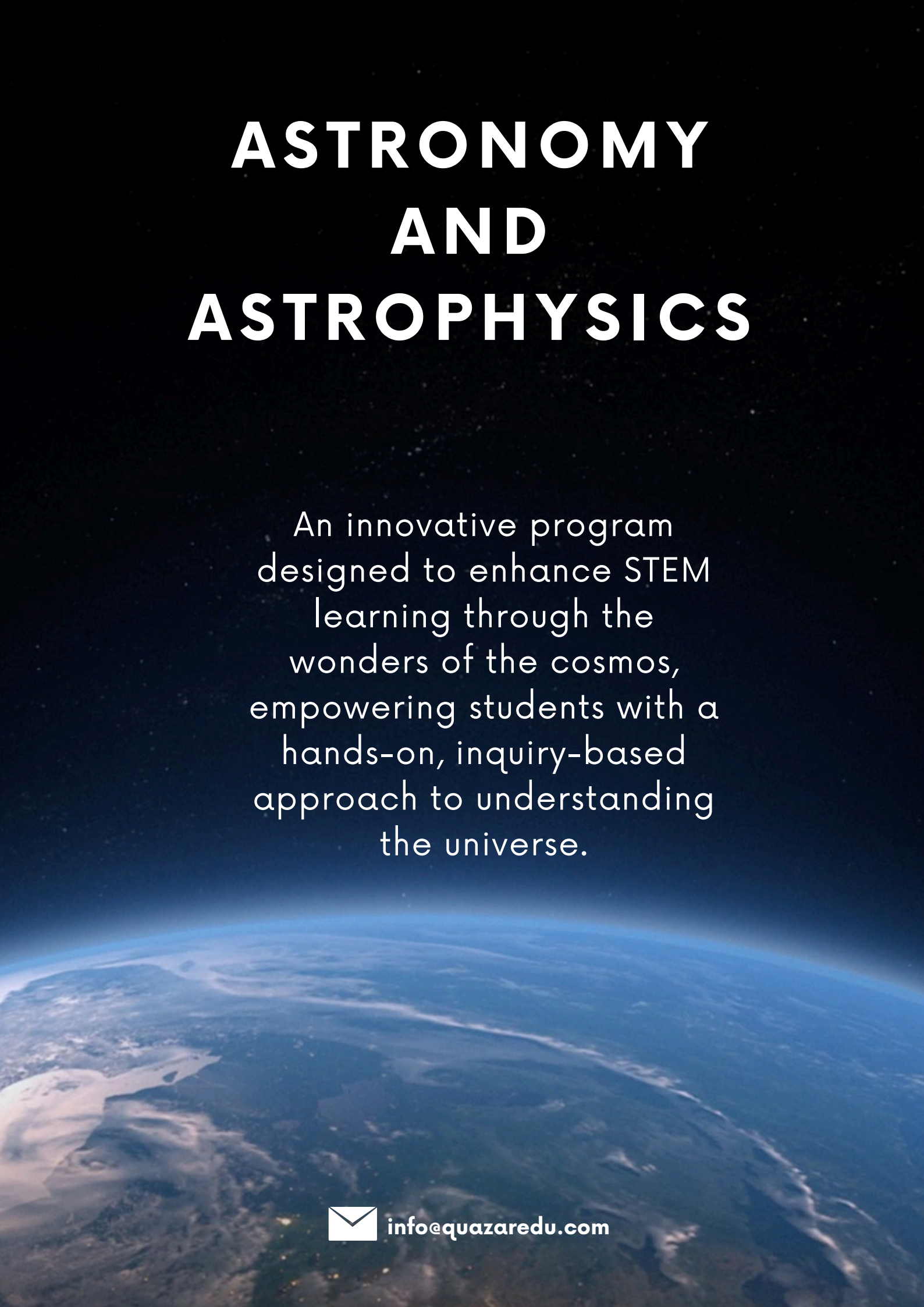
ASTRONOMY AND ASTROPHYSICS

An innovative program designed to enhance STEM learning through the wonders of the cosmos, empowering students with a hands-on, inquiry-based approach to understanding the universe.



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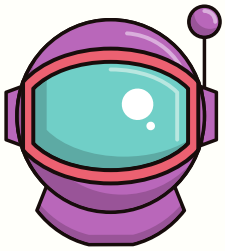
AGE-ADAPTED LEARNING

PYP

The Solar System
Planets and their moons
Asteroids, comets, and meteoroids

MYP

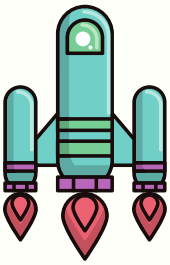


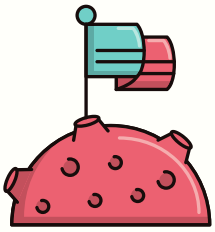
Stars and Nebula
Rotation and Revolution
Phases of the Moon
Conjunction and Opposition
Scale of the Universe
Types of galaxies

Constellations
Structure of the Milky Way
Basic proper motion and parallax
Basic Star formation
Electromagnetic Spectrum
Introduction to telescopes

DP

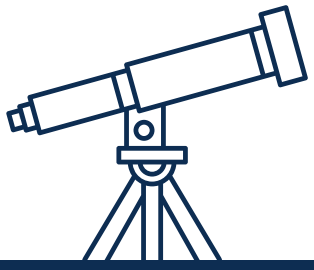
Orbital Mechanics
Binary systems
Nuclear Physics
Stellar evolution
Distance Measurement
Artificial Satellites





Neutron stars and Pulsars
Black Holes
Detection methods for exoplanets
Interstellar Medium
CMBR
Hubble's Law

***Topics are subject to change based on the prerequisites covered by the students**



CLASS STRUCTURE

1 DEFINING A PROBLEM

Begin by identifying a specific problem or question you want to address in our study. This step involves clearly articulating what you aim to understand or solve, setting the stage for your learning efforts.

2 UNDERSTANDING CORE CONCEPTS

Build a strong foundation by learning the essential theories, principles, and laws that underpin the problem statement.

3 OBSERVATIONAL TECHNIQUES

Gain proficiency in the various methods used to observe astronomical phenomena. These techniques are vital for acquiring direct evidence and data.

4 INTERPRETATION AND ANALYSIS

Focus on the analysis and interpretation of data collected through observations or experiments. It is essential to draw meaningful conclusions about the phenomena you are studying, whether it's the behaviour of celestial bodies or the properties of distant galaxies.

5 PROBLEM SOLVING

Apply your understanding and analytical skills to solve the defined problem or address the research question. It involves using mathematical models, simulations, and reasoning to test hypotheses, refine theories, and find solutions. Problem solving is iterative, often requiring revisiting earlier steps to enhance understanding and achieve better outcomes.