Semester Lecture Plan

Name of the college: Government College of Arts, Science& Commerce, Sanquelim-Goa

Name of Faculty: Shweta A. Patil | **Subject:**Geography- Astronomical Geography

Paper code: GOG-131 | **Program/Course: B.COM** | **Division:**

Academic year: 2025-2026 | **Semester :I** | **Total Lectures: 24**

Course Objectives:. Astronomical Geography is an introductory course that provides a comprehensive overview of the science of astronomy in relation to Geography. The course covers the historical development of astronomy, celestial coordinates and time, the electromagnetic spectrum, imaging and spectroscopy, the Solar System, stars and stellar evolution, galaxies and cosmology, as well as special topics such as exoplanets, dark matter, dark energy and gravitational waves. Throughout the course, students will have opportunities to engage in hands-on activities and observations of the night sky.

Course Learning Outcome: By the end of the *Astronomical Geography* course, students will understand the historical development of astronomy, celestial coordinates, and major concepts of the Solar System, stars, galaxies, and the universe. They will develop skills in observing and interpreting celestial phenomena, relating them to Earth's geography, and will also cultivate curiosity, critical thinking, and appreciation for humanity's place in the cosmos.

Month	Lectures From:	To:	No. of lectures allotted	Topic, Subtopic to be covered	Learning Outcome	ICT Tools	Reference books
July	14/07/2025	19/07/2025	2	Meaning of Astronomy	Students will be able to define astronomy as the scientific study of celestial bodies and phenomena beyond Earth and recognize its scope as a branch of natural science	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	21/07/2025	26/07/2025	2	Relationship of Astronomy with Geography	Students will be able to explain how astronomy and geography are interconnected, particularly in understanding Earth's shape, timekeeping, seasons, eclipses, and navigation.	Board and PowerPoint Presentations	Hawking, Stephen. The Universe in a tshell. Bantam Books, 2001. 5
	28/07/2025	31/07/2025	2	Relationship of Astronomy	Students will be able to describe the historical progress of astronomy and how it	Board and PowerPoint	Hawking, Stephen. The Universe in a tshell. Bantam Books, 2001. 5

				with Geography	influenced geographical knowledge, from ancient sky observations to modern space-based discoveries.	Presentations	
	1/08/025	2/08/2025	1	Historical development of astronomy in relation to Geography	Students will be able to describe the historical evolution of astronomy and explain how it contributed to geographical knowledge, including early mapping, navigation, and understanding of Earth's place in the universe.	Board and PowerPoint Presentations	Hawking, Stephen. A Brief History of Time. Bantam Books, 1998.
	4/08/2025	9/08/2025	2	The Solar System	Students will be able to explain the structure and components of the Solar System, including planets, moons, asteroids, and comets, and understand their motions and interactions with Earth	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	11/08/2025	16/08/2025	1	The Sun and its properties	Students will be able to describe the physical characteristics, structure, and energy-producing processes of the Sun, and explain its role in sustaining life and influencing Earth's climate and environment	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	18/08/2025	23/08/2025	2	The Sun and its properties	Students will be able to describe the physical characteristics, structure, and energy-producing processes of the Sun, and explain its role in sustaining life and influencing Earth's climate and environment	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
September	2/09/2025	6/09/2025	2	The planets and their properties	Students will be able to identify the planets of the Solar System, describe their physical and orbital characteristics, and compare their similarities and differences with Earth.	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	8/09/2025	13/09/2025	2	Dwarf planets, asteroids, comets and constellations	Students will be able to identify and describe dwarf planets, asteroids, and comets, and explain the significance of constellations in mapping the night sky and understanding celestial patterns.	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse

	15/09/2025	20/09/2025	2	Types of stars	Students will be able to classify stars based on temperature, color, size, and luminosity, and explain the characteristics that distinguish different types of stars.	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	22/09/2025	27/09/2025	2	Types of stars	Students will be able to classify stars based on temperature, color, size, and luminosity, and explain the characteristics that distinguish different types of stars.	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
October	1/10/2025	4/10/2025	2	Stellar properties and life cycle Star clusters and their properties	Students will be able to describe the physical properties of stars (mass, luminosity, temperature) and explain their life cycle from formation in nebulae to end stages like white dwarfs, neutron stars, or black holes.	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	6/10/2025	11/10/2025	2	Star clusters and their properties	Students will be able to differentiate between open and globular star clusters, describe their properties, and explain their significance in studying stellar evolution and the structure of the galaxy	Board and PowerPoint Presentations	Eric Chaisson and Steve Astronomy a beginners' Guide to the universethUniverse
	13/10/2025	18/10/2025	2	Revision			