

COURSE NO: CED 080

COURSE NAME: Astronomy

COURSE DESCRIPTION:

Learn about the skies of the Cayman Islands.

This is a hands-on opportunity to engage with how the stars above have played such an important role in the heritage of the Cayman Islands and how they command such relevance even today.

We will explore how you can appreciate our local skies at a deeper level. Through practical viewing sessions, we will learn the locally visible constellations and the stories and useful secrets associated with them. Find out about how the skies are so closely tied to our seafaring heritage and learn to navigate by the stars. Appreciate how the sun in our tropical skies give us such wonderful colourful sunsets and the green flash. Build real sundials that are custom tailored to our location, applying your knowledge of how our Solar System works.

We will also learn about how our planet fits into the universe. Learn about the forces that forged the solar system, including making real observations of the seismic activity that moulds our own planet. Discover how planets appear in the night sky and how they wander between constellations over time. Use telescopic equipment to observe the countless stars that fill our Milky Way, and see where stars are being formed in stellar nurseries with your own eyes. Learn about the constant changes in the Sun and backed up with observations using the world-class solar telescope at UCCI.

Learn how to extend your astronomical explorations beyond the classroom. Become better informed about how to buy a telescope. Find out how to find the best viewing spots for events like meteor showers or seeing the milky way. Learn about astrophotography and how to get the best images of the skies.

CREDIT: 0

PREQUISITE: None

Course Objectives:

Upon successful completion of this course, the student will have able to:

1. Describe how the movements of the parts of the solar system give rise out our changing night skies.
2. Identify ways in which the skies are related to the Caymanian cultural heritage.
3. Confidently make observations of the sky using various astronomical equipment.

COURSE CONTENT

Dates marked with an asterisk (*) are changed from the original calendar

1	Mar 8	Introduction: Our place in the Universe
2	Mar 10	The stars above: Learn about the patterns of stars above us <i>guest: Mark Elliot</i>
3	Mar 15	Our neighbours: Learn about the moon and satellites
4	Mar 17	The neighbourhood: Learn about the planets, asteroids, and comets
5	Mar 22*	Our home: Learn about the formation of the Cayman Islands <i>guest: Hendrik van Genderen</i>
6	Mar 24*	Our skies: Learn about earthquakes, blue skies, sunsets, and the green flash <i>guest: Ruud van der Pluijm (seismic measurements)</i>
7	Mar 29*	Telescopes: Learn about various types and how to find the best kit to fit your needs <i>guests: Peter Hughes, David Brown, and Cathy Church</i>
8	Mar 31	The Sun and Sundials: Observe our local star and build an accurate sundial instrument NOTE: class will begin promptly at 6:00PM for this session
9	Apr 5	Navigating by the stars: How the skies are so closely tied to Cayman's history NOTE: this session is at the Cat Boat Club, Whitehall Bay Dock, N Church St, GT <i>guest: Jerris Miller</i>
10	Apr 7*	Astrophotography: Learn about techniques to photograph the night skies
11	Apr 12	Next Steps: How we are learning more about our universe
12	Apr 14	Course plenary: presentation of projects, questions, and answers

TEACHING METHODOLOGY

Sessions in the observatory mixed with practical activities.

ASSESSMENT

Students will present and share a very short project of their choice based on their learning.

REQUIRED TEXT

No text is required for this course.

ADDITIONAL RESOURCES

- <https://facebook.com/caymanastronomy> and <http://cias.space> - Cayman Islands Astronomical Society
- <https://apod.nasa.gov> - Astronomy picture of the day. Updated daily with interesting links and descriptions
- Android or IOS astronomy apps - there are many to choose from, both free and paid. "stellarium" and "starwalk" are good examples.
- <https://stellarium-web.org/> and <https://www.solarsystemscope.com/> - free sky simulation websites
- <https://www.heavens-above.com> - website for satellite viewing predictions
- <https://skyandtelescope.org/> accessible and well researched astronomy for amateurs