VANCOUVER ISLAND UNIVERSITY

DEPARTMENT OF PHYSICS, ENGINEERING AND ASTRONOMY

COURSE OUTLINE

ASTR 312
HISTORY OF ASTRONOMY

INSTRUCTOR: Greg Arkos
OFFICE: Building 315, Room 209
OFFICE HOURS: TR 1:00 pm - 2:30 pm *or by appointment*
PHONE: (250) 753-3245 & *ask to be transferred to me* OR *MS Teams calling*
EMAIL: gregory.arkos@viu.ca
WEBSITE: https://wordpress.viu.ca/arkosg/
VIULEARN: https://learn.viu.ca

LECTURE: TR 11:30 am – 1:00 pm Bldg 315, Rm 216

TEXTBOOK: All required material will be in the lecture notes and/or provided. A ***free*** Astronomy reference text is also available online via *OpenStax.org*.

CALENDAR DESCRIPTION: An examination of the development of astronomical/cosmological ideas within a historical framework. Basic astronomical concepts will be introduced as required. Topics will span recorded human history, from early man's view of the sky through to current understanding of the cosmos. No formal background in astronomy is assumed. Credit will only be granted for one of ASTR 211 or ASTR 312. (3:0:0)

OBJECTIVES & LEARNING OUTCOMES: Astronomy 312 is a detailed examination of the development of modern astronomical ideas within a historical framework. Basic astronomical concepts are introduced as required. Traditional (western) and non-traditional influences on astronomy are included, with content ranging from early man's view of the heavens to our most recent explorations of the cosmos. The course stresses conceptual understanding and class discussion regarding the evolution of modern astronomy, with minimal mathematical derivation. Quizzes and exams emphasize descriptive material and an understanding of course concepts. Students are expected to be able to apply their knowledge of the connections between historical persons, time periods and viewpoints to construct original, well supported written arguments on a variety of related astronomical topics. The group presentation component invites students to identify & research a specific, detailed topic of astronomical interest and work with a group to effectively communicate that information to the class. By the end of the course students should be conversant regarding the nature of scientific enquiry, able to articulate the differences between astronomy & astrology, cite examples of significant non-western contributions to astronomy, recall factual information regarding major figures & events in the evolution of astronomy and discuss the current state of space exploration.

PREREQUISITES: *Third year standing or permission of the instructor.*

**** Please read ALL of the important course details & policies which follow. ****

STUDENT RESPONSIBILITIES: Read this course outline *carefully*; it is assumed that you are **fully aware** of its contents with regards to dates & deadlines, evaluation and policies. You are responsible for keeping up with material presented in lecture and monitoring your progress in the course. *Please speak with me **immediately** if you are having difficulties which might impact your grade in the course.*

OFFICE HOURS: I will be available for face-to-face meetings on a drop-in or by-appointment basis in my office during the formal office hours listed above. You may also reach me via the provided email and phone number both during and outside of my office hours. It is also possible to arrange individual or small-group meetings via Microsoft Teams (see the link on the course website).

OBSERVING SESSIONS: *Optional* outdoor observing sessions take place (weather permitting) during the semester. *** Dates and times for observing sessions are TBD. ***

ASTRONOMY PRESENTATION: Students work in groups of three (3), with each member responsible for researching, creating and presenting a portion of the presentation. **A single grade** is assigned to each group and **applies to all members**. Presentations take place near the end of term during class; dates are TBD. Detailed instructions and the marking rubric are available on the course website.

EVALUATION:
Term Test #1 (in class) ……30%
Term Test #2 (exam period) ……30%
Quizzes (best 5 of 6) ……15%
Group Project ……..…25%

GRADES: Final grades are assigned using the *VIU Institutional Grade Scale*:

A+	*90-100%*	***B+***	*76-79%*	***C+***	*64-67%*	***D***	*50-54%*
A	*85-89%*	***B***	*72-75%*	***C***	*60-63%*	***F***	*0-49%*
A-	*80-84%*	***B-***	*68-71%*	***C-***	*55-59%*		

FAILING GRADES: Students worried about poor grades should speak with me as soon as possible. Please see the online VIU Calendar regarding registration related policies. *** The last day for academic penalty-free voluntary withdrawal is below. ***

ACADEMIC INTEGRITY & POLICIES Academic misconduct can have ***significant*** repercussions on your academic career and is taken ***very seriously*** at VIU. Details of VIU's General Regulations, Policy 96.01 and Procedure 96.01.001 are available from: https://www.viu.ca/registration/general-regulations, https://learningmatters.viu.ca/ready-set-go/academic-integrity

GENERATIVE ARTIFICIAL INTELLIGENCE: Students are expected to submit their *own work & ideas for this course*; the *usage and scope of ANY form of AI generated content or imagery* in submitted work *MUST be pre-approved by the instructor & fully referenced.*

EDI & CODE OF CONDUCT: VIU values human diversity in all its dimensions and is committed to achieving and ensuring learning and working environments that are equitable, diverse and inclusive. *It is expected that students will treat one another and the instructor with respect and dignity at all times, without exception.*

ACCESSIBILITY SERVICES: VIU's Accessibility Services provides information, support services and reasonable accommodation to students with documented permanent and temporary disabilities, such as mental health conditions, ADHD, learning disabilities, chronic health issues, hearing and visual impairments, physical disabilities and temporary impairments due to accident, illness or injury.

If you have a condition requiring academic accommodations for this course please contact Accessibility Services at AccessibilityServices@viu.ca or visit them in BLDG 255. ** *If you are already registered with AS please provide me with your accommodation letter, either in person or by email.* **

It is the student's responsibility to be aware of & meet all AS deadlines!

**** IMPORTANT course policies – PLEASE READ CAREFULLY ****

1 Concerns regarding graded material MUST be raised within a week of its return.
2 Late submissions will NOT be accepted for grading WITHOUT prior approval.
3 There are NO deferred or make-up quizzes for this course.
4 There will be NO "extra" or "make-up" work for this course.
5 Requests for exam deferments REQUIRE official supporting documentation.
6 Students MUST be available for the entire term, eg. the ENTIRE final exam period.
7 There will be NO accommodation of non-university related travel, eg. vacations.
8 There is ZERO tolerance for academic dishonesty, including plagiarism.

IMPORTANT DATES:

"ROCK VIU" ORIENTATION:	September 8, 2026
FIRST DAY OF CLASSES:	September 9, 2026
MONDAY SCHED ON TUESDAY:	October 13, 2026
WITHDRAWAL DEADLINE:	November 30, 2026
LAST DAY OF CLASSES:	December 11, 2026
FINAL EXAMINATIONS:	December 14 – 22, 2026

HOLIDAYS: (No classes, labs or exams)

LABOUR DAY:	September 7, 2026
TRUTH & RECONCILIATION:	September 30, 2026
THANKSGIVING:	October 12, 2026
REMEMBRANCE DAY:	November 11, 2026
STUDY DAYS:	November 9 – 13, 2026

TENTATIVE QUIZ, EXAM & PRESENTATION DATES:

Quiz 1	**Intro, Sky & Astrology**	**Sept 17**
Quiz 2	**Early Astronomy, Greeks**	**Oct 1**
Presentation Proposal	**due (topic & method)**	**Oct 9**
Quiz 3	**Copernicus, Brahe, Kepler**	**Oct 15**
Term Test #1	**Intro – Bruno**	**Oct 29**
Quiz 4	**Bruno, Galileo, Newton**	**Nov 5**
Quiz 5	**Modern Age, Technology**	**Nov 19**
Quiz 6	**Space Age**	**Dec 10**
Presentations	**in class**	**Dec 1, 3, 8, 10**
Term Test #2	**Bruno – Space Age**	**Final Exam period**

TOPICS: The following is a *tentative* list of topics that will be covered in this course.

Subject

Early Astronomy: science, astrology, non-western astronomy, Greek astronomy, geocentric model

The Age of Reason: Copernicus, Brahe, Kepler, Galileo and the heliocentric model, Newton

Modern Astronomy: discovery of Uranus & Neptune, size of the solar system & Milky Way, Technology

The Space Age: Mercury, Gemini & Apollo programs; landing on the Moon

***** NOTE: Circumstances may require modifications to the dates & topics in this outline. *****